

GOVERNMENT OF INDIA

DEPARTMENT OF ARCHAEOLOGY

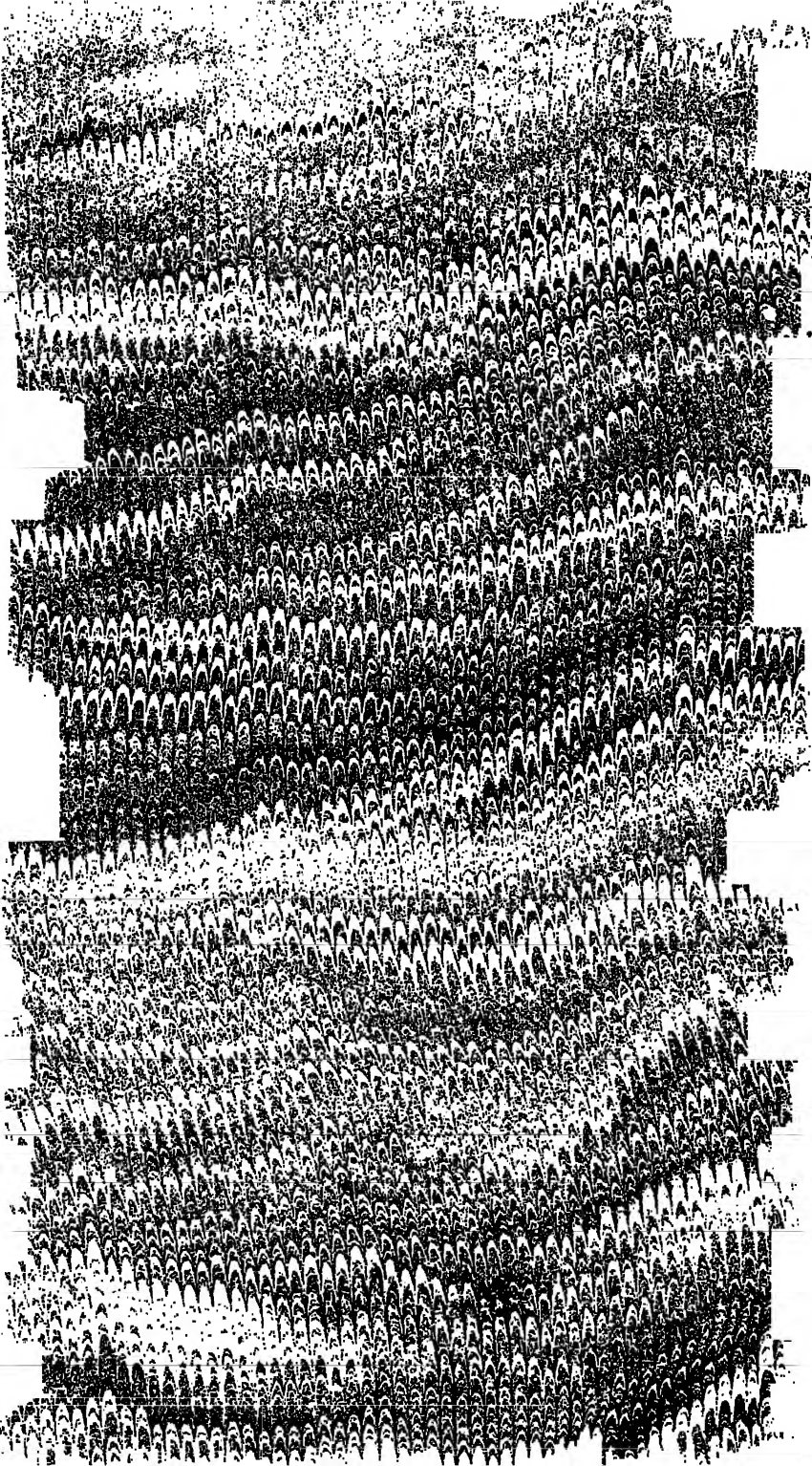
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# PROCEEDINGS

OF THE

## ASIATIC SOCIETY OF BENGAL:

EDITED BY

THE GENERAL SECRETARY.



3-123

JANUARY TO DECEMBER,

1 8 6 6.

891.05

P.A.S.B.

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CALCUTTA:

PRINTED AT THE BAPTIST MISSION PRESS,

1867.

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ABSTRACT STATEMENT  
OF  
RECEIPTS AND DISBURSEMENTS  
OF THE  
ASIATIC SOCIETY,  
FOR  
THE YEAR 1865.

STATEMENT  
*Abstract of the Cash Account*

RECEIPTS.				1865.	1864.
ADMISSION FEES.					
Received from New Members,...	Rs.	928	0 0	928 0 0	1,600 0 0
CONTRIBUTIONS.					
Received from Members, ...	...	9,445	0 0	9,445 0 0	8,389 10 0
JOURNAL.					
Sale proceeds of, and Subscription to the Journal of the Asiatic Society,		749	8 0		
Refund of Postage Stamps, ...	...	6	0 0		
Ditto of Freight, ...	...	2	9 0	758 1 0	610 4 0
LIBRARY.					
Sale proceeds of books, ...	...	162	12 0		
Refund of Freight, ...	...	29	4 0		
Ditto of Postage Stamps, ...	...	1	15 0	193 15 0	300 4 0
MUSEUM.					
Received from the General Treasury at 500 Rs. per month, ...	...	6,000	0 0		
Savings of salary, ...	...	87	13 0	6,037 13 0	6,515 11 6
VESTED FUND.					
Interest on Government Securities received from the Bank of Bengal, .		337	8 0	337 8 0	344 12 11
SECRETARY'S OFFICE.					
Sale of Postage Stamps, ...	...	2	4 0		
Refund of Postage Stamps, ..	...	23	13 0		
Ditto of Packing Charges, ...	...	0	8 0		
Ditto of Banghy Expenses, ...	...	5	7 6		
Saving of salary, ...	...	2	6 6	34 7 0	16 0 9
GENERAL ESTABLISHMENT.					
Saving of salary, ...	...	1	14 9	1 14 9	4 0 0
COIN FUND.					
Sale proceeds of Gold and Silver Coins,		236	15 6	236 15 6	33 0 0
A. C. L. CARLYLE, Esq.					
Refund of the amount advanced him on the Contingent Expenses for the Museum, ...	...	117	11 6	117 11 6	280 4 9
BABU POORNOCHUNDER BYSACK.					
Refund in part of the amount advanced for the expenditure of the Museum,		762	15 3	762 15 3	
Carried over,...				18,854	5 0

No. 1.

*of the Asiatic Society, for 1865.*

## DISBURSEMENTS.

1865. 1864.

## CONTRIBUTIONS.

Refunded to Messrs. Colvin, Cowie and  
Co. on account of Major J. L. Sher-  
will's Subscription for 3rd quarter  
1864, received in advance, ... Rs.

6 0 0

6 0 0

## JOURNAL.

Printing Charges, ... 1,640 2 0

Drawing plans, &c. for the Journal  
and Proceedings ... 559 3 0

&c. for do. do., ... 576 8 0

... for the Journal, ... 3 10 3

Freight and Bagghy expenses, ... 232 1 6

Purchase of Stamps, ... 139 0 0

Packing Charges, ... 33 14 0

Commission on Sale of books, ... 23 10 6

Purchase of printing paper for the  
Journal and Proceedings, ... 59 0 0

Ditto for a Copy of Journal, ... 1 8 0

Ditto for three blank books, ... 8 4 0

Petty Charges, ... 4 7 0

3,272 4 3 2,264 3 0

## LIBRARY.

Salary of the Librarian, ... 840 0 0

Establishment, ... 130 0 0

Purchase of Books, ... 255 0 9

Binding Books and Mounting Maps, &c. 398 2 0

Extra writer, ... 148 0 0

Salary for preparing a revised Ca-  
talogue of the Library, ... 335 0 0

Purchase of Furniture, ... 383 0 6

Printing Charges, ... 10 0 0

Purchase of a blank book, ... 2 0 0

Freight, ... 24 14 3

Landing Charges, ... 8 4 6

Bearing Postage, ... 1 8 0

Commission on Sale of Books, ... 12 10 3

Petty Charges, ... 28 1 3

2,576 9 6 1,397 0 8

## MUSEUM,

Salary of the Curator, ... 250 0 0

Ditto of the Sub-Curator, ... 1,200 0 0

Establishment, ... 588 0 0

Salary of Taxidermists, ... 978 9 9

Contingent charges, ... 2,250 1 0

Furnitures, Stands, &c. ... 564 13 0

Purchase of blank books, ... 20 8 0

Advertising Charges, ... 7 8 0

Freight, ... 18 3 3

Photographic Drawings, ... 69 0 0

Carried over, ... 5,955 11 0 5,854 13 9

## RECEIPTS.

Brought over,...Rs. 18,854 5 0

## POTITPABUN MISTRY.

Refund of the amount advanced him on the

9th December last, ... ..	50 0 0		
	<u>50 0 0</u>	50 0 0	50 0 0

## CAPT. J. JOHNSTON.

Received from him in deposit, ... ..	0 6 0		
	<u>0 6 0</u>	0 6 0	

## A. M. VERCHERE, Esq.

Refund in part of the amount paid on the 31st May, 1864, ... ..	1 0 0		
	<u>1 0 0</u>	1 0 0	

## E. T. ATKINSON, Esq.

Refund of the amount paid on the 31st March last, ... ..	3 8 0		
	<u>3 8 0</u>	3 8 0	

## MAJOR J. G. GOWAN.

Received from him in Deposit, ... ..	10 0 0		
	<u>10 0 0</u>	10 0 0	

## LT. J. WATERHOUSE.

Refund of the amount paid 21st June last, ... ..	1 2 0		
	<u>1 2 0</u>	1 2 0	

## GOVERNMENT N. W. PROVINCES.

Refund in part of the freight paid for sending Journal Asiatic Society, ... ..	9 0 0		
	<u>9 0 0</u>	9 0 0	

## HURROMOHUN SIRCAR.

Refund of the amount paid on the 16th May last, ... ..	100 0 0		
	<u>100 0 0</u>	100 0 0	

## SHEIKH GULLO TAXIDERMIST.

Refund of the amount paid on the 13th September last, ... ..	20 0 0		
	<u>20 0 0</u>	20 0 0	

## REV. JAESCHKE.

Sale proceeds of a copy of Thibetan Grammar on his account, ... ..	1 0 0		
	<u>1 0 0</u>	1 0 0	

## BALANCE OF 1864.

In the Bank of Bengal, ... ..	1,304 5 6		
Cash in hand, ... ..	5 14 7		
	<u>1,310 0 1</u>	1,310 4 1	

Carried over,... 20,360 9 1

## DISBURSEMENTS.

Brought over,...	Rs.	5,955	11	0	5,854	13	9
Repairing Charges, ... ..	...	339	5	6			
Purchase of Postage Stamps, ...	...	10	0	0			
Ditto of 53 yards of Broad Cloth, ...	...	102	11	0			
Packing Charges, ... ..	...	8	0	0			
Income Tax on Curator's Salary, ...	...	52	8	0			
					6,468	3	6
					6,307	8	3

## MUSEUM TRANSFER ACCOUNT.

Printing 125 Copies of the General Museum incorporation draft Act, ...	58	0	0
			58 0 0

## VESTED FUND.

Commission to the Bank of Bengal for drawing interest on the Govern- ment Securities, ... ..	0	13	6
			0 13 6
			7,063 4 4

## SECRETARY'S OFFICE.

General Establishment, ... ..	774	0	0
Secretary's Office Establishment, ...	1,068	0	0
Purchase of Postage Stamps, ... ..	140	5	0
Ditto of blank books, ... ..	22	0	0
Ditto of two Sheet Almanacs for 1865-66, ... ..	2	0	0
Ditto of Stationery, ... ..	164	3	0
Printing and Engraving Charges, ...	162	0	0
Bearing Postage, ... ..	6	11	9
Petty Charges, ... ..	10	9	6
			2,349 13 3
			2,321 1 9

## COIN FUND.

Purchase of Coins, ... ..	386	11	
			386 11 9
			406 2 11

## BUILDING.

Assessment, ... ..	480	0	0
Ditto for lighting, ... ..	96	0	0
Repairing, ... ..	1,764	7	6
			2,340 7 6
			816 11 3

## MISCELLANEOUS.

... ..	4	12	0
... ..	75	7	0
... ..	57	0	0
Fee to the Bank of Bengal for Stamp- ing Cheques, ... ..	3	2	0
Purchase of Receipt Stamps, ... ..	7	13	0
Purchase of 12 ... ..	40	3	6
Table in the Meeting room, ... ..	45	0	0
Petty Charges, ... ..	32	6	9
			265 12 3
			387 7 6

## BABU POORNOCHUNDER BYSACK.

Paid him as advance on the Con- tingent expenses for the Museum, .	1,045	0	0
			1,045 0 0

Carried over, ... 18,769 11 6



## RECEIPTS.

Brought over,...Rs. 20,360 9 1

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Carried over,... 20,360 9 1



## RECEIPTS.

Brought over,...Rs. 20,360 9 1

Rs. ...	... 20,360 9 1
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Examined,  
 PROTAP CHUNDER GHOSH,  
*Offg. Assistant Secretary.*

*Asiatic Society's Rooms,  
 The 31st December, 1865.*

## DISBURSEMENTS.

Brought over,...Rs. 19,310 3 6

A. G. WALKER, Esq.						
Paid insufficient Postage on a parcel						
of books, ... ..			7 0 0		7 0 0	
SHAIK GULLO TAXIDERMIST.						
Paid him his Salary in advance, ...		20 0 0		20 0 0		
SHAIK HARRY TAXIDERMIST.						
Paid him his Salary in advance, ...		103 0 0		103 0 0		
					19,440 3 6	

BALANCE.						
In the Bank of Bengal, ... ..	817 3 0					
Cash in hand, ... ..	103 2 7					
				920 5 7		
Rs. ... ..				20,360 9 1		

Audited,

H. F. BLANFORD,

RAJENDRA LALA MITRA.

# STATEMENT

*Abstract of the Oriental*

RECEIPTS.				1865.	1864.
ORIENTAL PUBLICATIONS.					
Received by Sale of Bibliotheca					
Indica, ... ..	Rs.	1,401	13 9		
Ditto by Subscription to ditto, ...		126	0 0		
Ditto by Sale of White Yajurveda, ...		38	0 0		
Refund of Postage Stamps, ...		7	8 0		
Ditto of Packing Charges, ...		0	4 0		
				1,573	9 9 2,210 8 6
GOVERNMENT ALLOWANCE.					
Received from the General Treasury					
at 500 Rs. per month, ...		6,000	0 0		
				6,000	0 0 6,000 0 0
VESTED FUND.					
Received Interest on the Government					
Securities from the Bank of Bengal,		442	8 0		
				442	8 0 452 4 9
CUSTODY OF ORIENTAL WORKS.					
Savings of Salary, ... ..		10	7 9		
				10	7 9 1 14 0
REV. F. KITTEL.					
Received from him in Deposit, ...		12	4 0		
				12	4 0
VELANANDOO B. SOOBIAH.					
Received from him in Deposit, ...		1	15 6		
				1	15 6
REV. T. FOULKES.					
Refund of Freight, ... ..		2	8 9		
				2	8 9
DR. M. HAUG.					
Received from him as advance for					
sending Bibliotheca Indica, ...		10	0 0		
				10	0 0
R. T. H. GRIFFITH, Esq.					
Refund of Freight, ... ..		3	1 0		
				3	1 0
PUNDIT CHHOTARAM TIWARI.					
Received from him in Deposit, ...		6	0 6		
				6	0 6
Balance of 1864, ... ..		1,424	10 2		
Cash in hand, ... ..		13	9 8		
				1,438	3 10

Carried over,... 9,500 11 1

No. 2.

*Fund for 1865.*

## DISBURSEMENTS.

			1865.	1864.
ORIENTAL PUBLICATIONS.				
Commission on the Sale of Books, Rs.	158	1	0	
Freight and Banghy, &c., ... ..	190	14	0	
Packing Charges, ... ..	48	8	6	
Purchase of Postage and Receipt				
Stamps, ... ..	22	9	6	
Printing Charges, ... ..	25	0	0	
Petty Charges, ... ..	11	6	3	
			456	7 3 382 0 0
VESTED FUND.				
Commission to the Bank of Bengal for				
drawing interest on Government				
Securities, ... ..	1	1	8	
			1	1 8 9,255 0 8
CUSTODY OF ORIENTAL WORKS.				
Salary of the Librarian, ... ..	360	0	0	
Establishment, ... ..	246	0	0	
Book Binding, ... ..	119	8	0	
Fee paid to the Bank of Bengal for				
Stamping Cheques, ... ..	1	9	0	
Purchase of Furniture, ... ..	31	15	6	
Petty Charges, ... ..	17	12	9	
			776	13 3 901 0 6
LIBRARY.				
Purchase of Books, ... ..	205	0	0	
			205	0 0 23 0 0
ASWALAYANA SRAUTA SUTRA.				
Editing Charges, ... ..	480	0	0	
Printing ditto, ... ..	896	0	0	
			1,376	0 0 288 0 0
LALITA VISTAR.				
Editing Charges, ... ..	618	0	0	
			618	0 0
TARIKH-I-BADOUNI.				
Editing and Printing Charges, ...	394	0	0	
			394	0 0 884 0 0
BIOGRAPHICAL DICTIONARY.				
Editing and Printing Charges, ...	760	0	0	
			760	0 0 900 0 0
NYAYA DARSAHA.				
Editing Charges, ... ..	308	0	0	
Printing ditto, ... ..	448	0	0	
			756	0 0
TAITTIKYA ARANYAKA.				
Editing Charges, ... ..	288	0	0	
Printing ditto, ... ..	224	0	0	
			512	0 0 144 0 0
BRIHATSANHITA.				
Printing Charges, ... ..	902	0	0	
			902	0 0 228 0 0
Carried over, ...			6,757	0 2

## RECEIPTS.

Brought over, ..Rs. 9,500 41 1

Rs. ...	... 9,500 11 1
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Examined,

PROTAP CHUNDER GHOSHE,

*Offg. Assistant Secretary.*

*Asiatic Society's Rooms,  
The 31st December, 1865.*

## DISBURSEMENTS.

				Brought over,...Rs. 6,757 6 2			
KAMANDAKIYA NITISARA.							
Printing Charges,	...	...	224 0 0	224	0	0	96 0 0
TAITTIYA BRAHMANA.							
Editing Charges,	...	...	144 0 0	144	0	0	368 0 0
PRAKRIT GRAMMAR.							
Editing Charges,	...	...	288 0 0	288	0	0	
IQBAL NAMEH.							
Editing and Printing Charges,	...	...	956 8 0	956	8	0	
WIS-O-RAMIN.							
Editing and Printing Charges,	...	...	96 8 0	96	8	0	1,168 0 0
NARADA PANCHARATTRA.							
Printing Charges,	...	...	232 8 0	232	8	0	
MIMANSA DARSANA.							
Printing Charges,	...	...	237 0 0	237	0	0	349 0 0
AYEEN-I-AKBARI.							
Charges for bringing Manuscript of do.,	...	...	18 5 0	18	5	0	
COPYING MSS.							
Copying Charges,	...	...	6 8 0	6	8	0	14 10 6
R. T. H. GRIFFITH, Esq.							
Paid freight for sending a parcel of	...	...	...	...	...	...	...
Bibliotheca Indica,	...	...	3 1 0	3	1	0	3 3 0
PUNDIT CHHOTARAM TIWARI.							
Paid him in part on his deposit,	...	...	2 8 0	2	8	0	
DR. M. HAUGH.							
The value of Bibliotheca Indica sent to	...	...	...	...	...	...	...
him,	...	...	9 6 0	9	6	0	
BALANCE.							
In the Bank of Bengal,	...	...	519 8 6	519	8	6	
Cash in hand,	...	...	5 8 5	5	8	5	
				525	0	11	
Rs.				...	9,500	11 1	

Audited,  
 H. F. BLANFORD,  
 RAJENDRA LALA MITRA.



# STATEMENT No. 3.

*Shewing the Assets and Liabilities of the Asiatic Society at the close of 1865.*

ASSETS.			LIABILITIES.		
CASH.					
	1865.	1864.		1865.	1864.
In the Bank of Bengal,	Rs. 817 3 0	1,304 5 6	Hon'ble Sir J. W. Colville, Kt. for amount deposit on his account, ...	Rs. 276 8 0	276 8 0
Cash in hand,	... 103 2 7	5 14 7	J. W. Laidley, Esq. for ditto ditto, ...	418 7 4	418 7 4
Government Securities,	... 6,500 0 0	6,500 0 0	Salary Establishment and Contingent Charges, ...	1,000 0 0	755 0 0
Rs. ...	7,420 5 7	7,810 4 1	Subscription to the Oriental Translation Fund, ...	630 0 0	525 0 0
OUTSTANDING.			Printing Journal and Proceedings, &c. about,...	3,559 7 0	1,260 8 0
Contributions, ...	5,793 7 11	5,811 14 11	Bird Catalogue Binding, ...	42 4 0	42 4 0
Admission fees, ...	480 0 0	416 0 0	Messrs. Williams and Norgate for Books supplied as per their account up to 30th June, 1865,	510 0 0	
Library sale of Books, ...	537 10 9	445 2 0	Ditto probable calculated amount for Books supplied from 1st July to 31st Dec. ...	500 0 0	
Journal Subscription, ...	568 4 0	538 2 0	Messrs. Higgs and Halder for repairing Society's Premises, ...	1,844 0 0	
Ditto sale of, ...	107 10 3	264 14 3	Rs. ...	8,780 10 4	3,277 11 4
Government allowance for Dec., 1865,	500 0 0	500 0 0			
Rs. ...	7,987 0 11	7,996 1 2			

*Asiatic Society's Rooms,  
The 31st December, 1865.*

Examined, *PROTAP CHUNDER GHOSH,*  
*Offg. Assistant Secretary.*

Andited, *H. F. BLANFORD,*  
*RAJENDRA LALA MITRA.*

# STATEMENT No. 4.

*Shewing the Assets and Liabilities of the Oriental Publication Fund at the close of 1865.*

ASSETS.			LIABILITIES.		
	1865.	1864.		1865.	1864.
In the Bank of Bengal, ...	Rs. 519 8 6	1,424 10 2	Establishment and Contingent Charges		
Cash in hand, ...	5 8 5	13 9 8	for December, 1865, ...	50 0 0	50 0 0
Government Securities, ...	8,500 0 0	8,500 0 0	Editing Charges due for work not yet		
Bibliotheca Indica sale & Subscription, ...	1,583 15 9	1,432 12 9	completed, about, ...	800 0 0	1,600 0 0
Major W. N. Lees, advance for printing			Printing Charges about, ...	3,400 0 0	3,601 2 0
Biographical Dictionary, &c. ...	140 0 0	1,200 0 0	Major W. N. Lees, printing and editing		
Government allowance for Dec. 1865, ..	500 0 0	500 0 0	Charges about, ...	900 0 0	1,192 0 0
			Deposit, ...	146 13 0	
Rs. ...	11,249 0 8	13,071 0 7	Rs. ...	5,296 13 0	6,443 2 0

Examined,	Andited,
PROTAP CHUNDER GHOSH,	H. F. BLANFORD,
Offg. Assistant Secretary,	RAJENDRA LALA MITRA.

*Asiatic Society's Rooms,  
The 31st December, 1865.*



PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JANUARY, 1866.



The Annual General Meeting of the Asiatic Society was held on Wednesday the 17th January, 1866.

A. Grote, Esq., President, in the chair.

The Secretary read the Council's Report for 1865 :—

ANNUAL REPORT.

The Council have much satisfaction in being able to report that, during the past year, the activity of the Society has been equal to that of any former period. There has not indeed been any increase in the number of its members on that of the previous year; on the contrary, there has been a slight diminution on the total number, and a considerable diminution of paying members. But in every department, there has been increased activity; and many alterations and reforms have been introduced, tending, as the Council believe, very materially to the advantage of the Society.

Of the ordinary members of the Society, 25 have withdrawn during the past year, and 11 are deceased, making a total loss of 36 members. The number of elections has been 32 only, so that there is a diminution of four on the member list of the previous year, 376 against 380.

The following tabular statement of the number of ordinary members of the Society for each year of the last decade shews, that while the total number for the past year is only 4 less than that for 1864, the great increase of absentee members has caused a diminution of 21 on the list of subscribing members. The total number of the latter is now 267, of which 121 are resident. The Council trust that the election of new members during the ensuing year may compensate for the unusual number lost by death and withdrawal during that just ended.

	<i>Paying.</i>	<i>Absent.</i>	<i>Total.</i>
1856, .....	131	36	167
1857, .....	109	38	147
1858, .....	193	40	233
1859, .....	135	45	180
1860, .....	195	47	242
1861, .....	225	55	281
1862, .....	229	82	311
1863, .....	276	79	355
1864, .....	288	92	380
1865, .....	267	109	376

Among the honorary members, the Council regret to record the death of Dr. Hugh Falconer, long a member of the Society, and one whose name is indissolubly associated with its labours. The closing volume of its *Researches*, published in 1836, contains not less than 5 papers from Dr. Falconer, then in the midst of his Sewalik-discoveries; and 3 other papers on the fossils from that interesting range of hills were published by him about the same time in vols. 5 and 6 of *Prinsep's Journal*. In 1834, he had previously drawn attention, in the same *Journal*, to the aptitude of the Himalayan range for the culture of Tea. A letter from him, when at Saharunpore, seems to have conveyed to Calcutta the first intelligence of the great cataclysm of the Indus in 1841, the cause of which had the greater interest for him, in that he had then recently returned from an expedition to Cashmere and the great glaciers of the Mustagh range. In the following year, Dr. Falconer went to England, where, besides contributing many papers to the Royal, Asiatic, Geological and Linnean Societies, he commenced with Col. Cautley the '*Fauna Antiqua Sivalensis*,' the text of which has unfortunately been left incomplete. On his return to India in 1848, his residence in Calcutta enabled him for the first time to be an office-bearer of the Society, and before finally leaving India in 1855, he undertook the arrangement, in their Museum, of the tertiary fossils with which his earlier researches had made him so familiar. During the 10 years which followed on his return to England, he contributed to the Geological Society an important paper 'on the species of *Mastodon* and *Elephant* occurring in the fossil state in England', the 2nd part of which, though read so far back as 1857, has been published in that

Society's Journal since his death. Another paper on the pigmy Elephant of Malta, read before the British Association at Cambridge, excited great interest. His later studies were devoted to that subject which is now so prominently occupying the thoughts of men of science, the antiquity of man; and his last written communication was in connexion with this, being a report to the Government which he drew up with Prof. Busk on some recently discovered cave deposits in Gibraltar. Dr. Falconer was, at the time of his death, a Vice-President of the Royal Society, and Foreign Secretary of the Geological Society. A resolution expressive of its deep regret on the announcement of the loss which this event occasioned, was recorded in this Society's proceedings for April last, and a subscription has been raised among its members for a bust, which it is hoped will be in its place in the meeting-room before the next anniversary meeting.

Mr. Edward Blyth, who, as an Associate of the Society and Curator of the society's museum, during a period of 21 years, brought together and described the greater part of the Zoological collections in the museum, and whose numerous writings in the Society's Journal form an important part of the literature of Indian Zoology, has been elected to the vacancy on the roll of honorary members, caused by the death of Dr. Falconer.

The Rev. C. H. Dall has been elected during the past year as an associate member of the Society.

Among the ordinary members, the Council have to regret the loss by death of Mr. E. O. Riley, whose paper on the Lake of the clear water in Burmah was published in the XXXIII. Vol. of the Society's Journal: also Brig.-Genl. Showers, the Hon'ble E. P. Levinge. Lieut. J. H. Urquhart, R. E., Lieut.-Col. P. Stewart, R. E., Bábu Moodoosundun Doss, R. T. Martin, Esq., W. Forbes Goss, Esq., Rájá Chunder Sekur Roy, and Moulavi Waheedeun Nubee Khán Bahádur.

#### MUSEUM.

In no department has greater progress been made during the past year than in the Society's museum. In the month of June, Dr. J. Anderson was appointed Curator of the Imperial Museum, and permitted by Government to assume charge of the Society's collections. Dr. Anderson immediately undertook the re-arrangement and resto-

ration of the specimens, which, since the departure of Mr. Blyth, had necessarily only received such care as was absolutely requisite to ensure their simple preservation. The museum was at the same time closed to the public for repairs, and for re-painting and whitewashing the interior. With a view to provide more light, especially in the lower rooms, the interior of the cases, the stands of the specimens, &c. were painted white, and the cases and larger specimens at the same time so re-arranged, as to obstruct as little as possible the side lights of the lower rooms. The smaller osteological specimens, which had previously been exposed to dust and injury, were arranged in cases, and the larger re-arranged with less crowding than before, and protected by a light railing. The stuffed animals were re-arranged and protected in a similar manner, in the room formerly occupied by the reptiles and fishes; and the valuable antiquities, which had previously been exposed to the deteriorating action of the weather in the museum compound, and many of which had been lost to sight amid the vegetation, were brought into the museum, thoroughly cleaned, and arranged along the walls of the museum, so as to display them in a manner previously unattempted. In order to provide more space for these and the Zoological specimens, the collections of rock specimens and minerals, which were of comparatively little interest to the public, and the importance of which has been in a great measure superseded by the formation of the Geological Museum in Hastings Street, were removed from their cases, carefully labelled and packed in cases, to be kept in the museum godowns, until the provision of more space may permit of their being arranged in drawers and thus rendered available to those who may wish to refer to them. Notwithstanding these measures, the space available for the Zoological collections has been found insufficient, and the specimens remain inconveniently crowded, but the Council have addressed Government with a view to the temporary provision of space elsewhere, until such time as the new museum building may be made ready; and they trust that it may shortly be in their power so to provide for this part of their collections, as to place them beyond risk of further injury. In addition to effecting these important improvements, Dr. Anderson has addressed himself to enlarge the Ethnological collection, and a circular, drawn up by him, has been issued in the name of the Society, soliciting the assistance of the different Governments of India

and of members of the Society, in extending the Society's collection of human crania. The Government of Bombay has replied favorably to this application, and the Society has already received some contributions from private donors, and promises of further aid which augur favourably for the success of the undertaking. Dr. Anderson has also commenced the formation of a collection of casts of the head and bust of the various aboriginal races of India, and such foreign races as are to be found in Calcutta, or can be procured elsewhere. Similar casts of some of the monkey tribes have also been taken, and will be added to, as opportunity may serve. The reptilian collection has been examined, compared, and catalogued by Mr. W. Theobald, Jr., and the catalogue is now in the press preparing for publication. Some specimens have also been presented to the collection by Mr. Theobald.

The collection of Madreporæ which, like the Invertebrate collections in general, (with the single exception of the shells arranged and catalogued by Mr. Theobald, in 1860) have hitherto been in a sadly neglected state, unnamed and unarranged, and so small in number as most inadequately to represent this important fauna, even for our own coasts, have been cleansed, and will shortly be arranged, together with a fine series from the Arracan coast, presented by Mr. Theobald, in a case or cases specially provided for them. Mr. Atkinson has presented a fine series of Lepidopterous insects, but these again cannot be exhibited, until the insect cases, long since ordered, shall arrive from home, and be placed in the museum. It has hitherto been a reproach to the museum, that but one, and that the smallest, of the five sub-kingdoms of animated nature, has been at all adequately represented. The collection of Mollusca, which stands next in order, is equalled if not surpassed, by more than one private collection in Calcutta; of the greater part of the Annulosa, nothing worthy of being called a collection exists, and the same must be said of the Echinodermata and Protozoa. Of the sub-kingdom Cœlenterata, the corals, already mentioned, are the only representatives. The Council earnestly desire that attention may be given to providing some more worthy representation of these neglected departments of Indian Zoology, and invite the donations of members with a view to this end. They have hitherto abstained from making any such appeal, being aware that the limited means of the Society did not admit of their providing for the preservation



and arrangement of a greatly increased Zoological collection. They believe, however, that they may now venture to do so, with confidence that under Dr. Anderson's direction, the Invertebrate collections, henceforth to be added to the Museum, will be fully cared for, and their importance duly appreciated.

Besides the donations already mentioned, the Society have received many others of considerable importance. A highly interesting and perfect specimen of a Meteorite which fell in the neighbourhood of Jessore in May, 1865, has been presented by Baboo Gour Doss Bysack; and a stone of large dimensions, and exhibiting some peculiar external characters, which fell near Shergotty in August, 1865, has been most liberally presented by His Honor the Lieutenant-Governor. In connection with these, the Council feel it their duty to express their obligation to Mr. H. H. Locke, to whose careful superintendence the Society are indebted for a series of models of these stones, produced with a fidelity, which they believe will be highly appreciated by the European Museums to which they have been or will be presented. They cannot too highly appreciate the advantages offered by the School of Art, under Mr. Locke's direction; both in enabling the Society to procure accurate and artistic models of meteorites, and ethnological and other casts, and also in furnishing illustrations for their publications, of an excellence and accuracy of execution, hitherto but rarely obtainable in Calcutta. Some specimens of meteorites, some of which are new to the Museum, have been received from Professor Shepard. From Mr. Blyth the Society has received a fine series of skulls, with a few other specimens; from Dr. Williams, late of Mandelay, and from Dr. Jerdon, collections of birds' skins; and from Baboo Rajendra Mullick, a large number of birds and mammals. Dr. Stoliczka has presented some specimens of birds, and a Lagomys from the snow region of the N. W. Himalaya, which had long been a desideratum in the Museum. To Major Ford of Port Blair, the Society are indebted for 3 Andaman skulls, and a fine collection of shells; and to Lieut. Beavan, Col. Tytler and many other donors, for Zoological specimens of various kinds which have been enumerated in the Society's proceedings.

From Col. Fytche and Major Ford, the Society have received specimens of the weapons and manufactures of the Andaman Islanders;

from Mr. Westfield, Genl. Tombs, Captain Godwin Austen, and Lieut. Wallace, specimens of arms, implements, and other works of the Bootas and Thibetans; and from Col. Saxton, the implements used in the Meriah sacrifices in Goomsoor. A fine statue in beaten brass, of the Dhurm Rajah of Bhotan, presented by Captain Hidayut Ali, now forms a prominent object on the staircase of the museum.

In quitting the subject of the museum, the Council express a hope that the considerable expenditure which has been incurred in its restoration and re-arrangement, will be considered amply justified by the great improvement which it now exhibits. They are, however, fully impressed with the inability of the Society to continue to meet the heavy monthly outlay which the maintenance of the museum demands, and they have the whole subject now under consideration, with a view to providing for the future support of the museum, without trenching so seriously, as during the last few months, on the somewhat limited means of the Society.

#### FINANCE.

The Council have the satisfaction to report that the measures, adopted during the past year to realize the arrears due to the Society's funds on account of entrance fees and subscriptions, have been more successful than in previous years. It having, however, been ascertained that many members had never received the notices which from time to time had been sent informing them of their liabilities, registered letters were issued in December last, to all who were more than one year in arrears. Satisfactory answers have been already received to some of these calls—and it is hoped that ere long the remaining arrears, amounting to Rs. 7,487, will be all realized.\*

The outlay of the Society's funds has been larger than usual, and will necessitate the sale of Government securities to the extent of about 1,500 Rs. which it is proposed to replace on realization of the arrears above noticed.

\* Of this amount Rs. 3,482 are for arrears of subscription of more than one year's standing.

Outstanding for sale of Journal,.....Rs.	107
Ditto ditto Subscriptions, .....	568
Ditto ditto sale of Library books, .....	537
Ditto ditto Admission Fees, .....	448

The principal items of extra expenditure have been the following :

In repairs to house, .....	Rs. 1,764
Refitting and re-arranging the Museum, .....	3,360
In printing and editing the Journal,* .....	1,006

The sums realized from members during the past year amount to Rs. 10,373. This is in excess of the average of the past ten years by Rs. 2,700. Of the above total, Rs. 928 were for admission fees, and Rs. 9,445 for quarterly subscriptions.

Comparing the actuals of this year with the estimate, the results are as follows :

INCOME.				
	Estimate.	Actual.	Deficit.	Excess.
Admission fees, .....	1,600	928	672	...
Subscriptions, .....	8,500	9,445	...	945
Journal, .....	600	758	...	158
Library, .....	300	193	107	...
Museum, .....	1,500	6,037†	...	4,537
Secretary's Office, .....	20	34	...	14
Coin fund, .....	30	236	...	206
			779	5,860
		Excess,	...	5,081
EXPENDITURE.				
	Estimate.	Actual.	Saving.	Excess.
Journal, .....	3,500	3,272	228	...
Library, .....	2,500	2,500	...	...
Museum, .....	1,500	6,468†	...	4,968
Secretary's Office, .....	2,350	2,349	1	...
Building, .....	1,800	2,340	...	540
Coin fund, .....	250	386	...	136
Miscellaneous, .....	400	265	135	...
			364	5,604
		Expenditure excess,	...	5,280
		Income ditto,	...	5,081
		Difference,	...	159

\* This shows the excess cost over the average of other years.

† The expenditure of the Museum was estimated at the beginning of the last year for three months only, in the expectation that it would be transferred to the Government.

The following statement shews the estimated income and expenditure for 1866.

INCOME.			
Admission fees, .....	Rs. 1,000	0	0
Subscriptions, .....	8,500	0	0
Journal, ....	600	0	0
Library, . . . . .	200	0	0
Museum, ...	6,000	0	0
Secretary's Office, .....	20	0	0
Coin fund, .....	100	0	0
*Sale of Government Securities, ..	1,500	0	0
	<hr/>		
	17,920	0	0
EXPENDITURE.			
Journal, .....	Rs. 3,500	0	0
Proceedings, ....	900	0	0
Library,.....	2,000	0	0
Museum, .....	6,000	0	0
Secretary's Office, .....	2,350	0	0
Building, .....	2,500	0	0
Coin fund, .....	320	0	0
Miscellaneous, .....	350	0	0
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	17,920	0	0

The accounts for the year have been prepared and submitted to the Auditors as usual, and will be laid before the Society as soon as finally passed by them.

#### OFFICERS.

The great increase in the Honorary work of the Society, which has been caused by the increase of its number of members during the past few years, by the increase in its publications, and various other work, has induced the Council, on the report of the Secretary, to increase the number of Honorary officers from two to four; so distributing the work, that each officer should undertake a special department and

\* This will only be necessary, in the event of outstanding arrears not being realized as anticipated.

thus relieve the two Secretaries (frequently one only) from the excess of work imposed by the previous arrangement. Col. Gastrell kindly consented to officiate as Treasurer, and two special Secretaryships of Natural History and Philology, History, &c. were established and accepted respectively by Dr. J. Anderson and Bábu Rájendra Lála Mitra, Mr. Blanford retaining the general work of correspondence, and the transaction of the ordinary current business of the Society's proceedings. This measure was announced to the Society for confirmation in July last, since which it had been in force, and the Council believe greatly to the benefit of the Society.

Bábu Lál Gopál Dutt, the Librarian and Assistant Secretary, having applied for six months' leave, the Council have appointed Bábu Protáp Chunder Ghoshe to officiate for him during his absence. Though new to his duties, Bábu Protáp Chunder Ghoshe has applied himself with great zeal, and promises to become a most useful officer. The other officers of the Society remain as at the end of last year, and have continued to give entire satisfaction.

#### JOURNAL.

The change in the form of publication of the Journal announced in the last annual report, was effected at the commencement of the present year, and this, together with the re-arrangement of Honorary officers, has enabled the Society to clear off the large arrears of papers which had accumulated in their boxes; so that it is trusted that, in future, publication may keep pace with the receipt of communications, to the great satisfaction doubtless of authors and readers. It has been found quite practicable, and indeed easy, to classify the papers received, according to the system proposed; and the papers of different characters have the advantage of being edited by gentlemen having special acquaintance with the subject matter, without delay or inconvenience. The increased bulk of the publications has necessarily rendered the expenditure of the Society in this department somewhat heavier than in former years; whether the cost will remain the same or will diminish in subsequent years, must depend on the number of communications received; but the Society will doubtless consider that the cost of the Journal is one of the most legitimate items of expenditure, and will desire that the Journal may suffer no diminution in the quantity or value of the materials received.

Seven numbers of the Journal, viz. three of the Natural History and four of the Historical part, have been issued, and ten numbers of the Proceedings; an eighth number of the Journal, making the fourth of the Natural History part, is now nearly ready for issue, together with the number of the Proceedings for December.

#### LIBRARY.

During the past year, 350 volumes, periodicals, and pamphlets have been added to the Library, the greater part of which have been presentations. The heavy outlay which has been incurred in the repairs of the building and the restoration of the Museum, has not permitted the Society to expend any large sum on the Library. A series of works on Zoophytes have however been purchased, with a view to the determination and arrangement of this part of the Zoological collection, which Dr. Stoliczka has kindly offered to undertake. Considerable progress has been made in the preparation of a new and classified catalogue, long an urgent necessity; the former catalogue having become in a great measure obsolete, owing to the large additions made to the Library since it was prepared. The catalogue now preparing will be classified according to subjects, with a descriptive index arranged alphabetically, and it is proposed to publish an annual Supplement arranged in like manner.

#### *Bibliotheca Indica.*

Twenty-six numbers of the Bibliotheca Indica have been issued during the past year, including portions of twelve different works. One of these is Arabic, two are Persian, seven Sanskrit, and two translations from the Sanskrit.

In the new series, Major Lees has completed his edition of the *Wis-o-Ramin*, an ancient Persian poem of great merit; and Maulavis Abdul Hak and Ahmed Ali have brought out three fasciculi of the *Ikbál-námeh Jahángirí*, a biography of Jehángir, which, with the *Tojuk-e Jehángirí*, lately published at Aligarh, will place at the disposal of the Oriental scholar the most authentic materials available for a correct history of the reign of that distinguished emperor. As a sequel to it, the Council have lately sent to press the *ʿAlamgírnámeh* of Mohamed Kázim, and intend to follow it up by editions of the *Bádsháhnámeh* of

Abdul Hámid Lahourie and the *Tárikh e Bahádursháhi*, to complete their series of the standard histories of the native histories of Delhi.

Of Sanskrit works in this series, the Council have to record the completion of the *Brihatsaṅhita* of Varáha Mihira, an astronomical work of great value, edited by Dr. H. Kern; the *Nyáya Darsana* of Gotama with the commentary of Vátsáyaṇa, edited by professor Jayanáráyana Tarkapanchánana; the *Nárada Pancharáttra*, edited by Rev. K. M. Banerjea; the *Sáṅkhyasára* of Vijnána Blikshu, edited by Dr. Fitz-Edward Hall; and the *Das'arupa* or Hindu Canons of Dramaturgy by Dhananajaya with the exposition of Dhanika, by the same editor. The late Dr. Ballantyne's translation of the Sánkhyā Aphorisms of Kapila has also been completed by the publication of its concluding portion.

Of works in progress, Pandit Rámanáráyana Vidyáratna has issued seven fasciculi of the *Srauta Sutra* of Āswaláyana, Bábu Rájendralála Mitra has brought out a fasciculus of the *Taittiríya, Arányaka*, and Pandita Maheschandra Nyáyaratna, a fasciculus of the *Mímánsá Darsana* with the commentary of Sávara Swámi.

In the old series, Bábu Pramadádása Mitra has brought out two fasciculi of his continuation of Dr. Ballantyne's translation of the *Sáhitya Darpana*, and Major Lees and Bábu Rájendralála Mitra are engaged in their editions of the Biographical Dictionary of Ibn Hajar and the *Taittiríya Bráhmāna* of the Black Yajur Veda.

The following are lists of the different works published, or are in course of publication, in the old and the new series :—

#### *Of the New Series.*

1. The *Iqbálnámah-i Jahángirí*; of Motamad Khan, edited by Maulawis Abd Al-Haqq, and Ahmad Ali, Nos. 77, 78 and 79. Fasc. I, II and III.

2. *Wis-O-Rámin*, an ancient Persian poem by Fakr al-din, As'ad al-Astarabadi, al-Fakhri, al Gurgáni, edited by Capt. W. N. Lees, L. L. D. and Munshi Ahmad Ali, No. 76. Fasc. V.

3. The *Mímánsá Darsana*, with the commentary of Savara Swámin, edited by Pandita Mahésa Chandra Nyáyaratna. No. 85, Fasc. II.

4. *Sánkhyā-Sára*, a treatise on Sankhya Philosophy, by Vijnána Bhikshu, edited by Fitz-Edward Hall, D. C. L. Oxon, No. 83.

5. The *Das'a-Rupa*, or Hindu Canons of Dramaturgy, by Dhanan-

jaya; with the exposition of Dhanika. The Avaloka edited by Fitz. Edward Hall, D. C. L. No. 82, Fasc. III.

6. The Sāṅkhya Aphorisms of Kapila with extracts from Vijñāna Bhikṣu's commentary, translated by J. R. Ballantyne, LL. D. No. 81, Fasc. II.

7. The Nārada Pancharātra, edited by Rev. K. M. Banerjea. No. 75, Fasc. IV.

8. The Taittirīya Aranyaka of the Black Yajur Veda, with the commentary of Sāyanāchārya, edited by Bābu Rajendralala Mitra, No. 74, Fasc. II.

9. The Nyāya Darsāna of Gotama with the commentary of Vātsāyana, edited by Pandita Jayanārāyaṇa Tarkapanchānana. No. 70, Fasc. III.

10. The S'rauta Sutra of Āś'walāyana with the commentary of Gārgya Nārāyaṇa, edited by Rāma Nārāyaṇa Vidyāratna, Nos. 69, 71, 80, 84, and 86. Fasc. IV., V., VI., VII., and VIII.

11. The Brihatsaṅhitā of Varāha-Mihira, edited by Dr. H. Kern, Nos. 68, 72, and 73. Fasc. V., VI., and VII.

The Muatakhbat Al-Twārīkh of Abd Al-Qādir Bin i Malūkshah, edited by Capt. W. N. Lees, L.L. D. and Maulawī Kabir Aldin Ahmad and Munshi Ahmad Ali. Fasc. V.

*Of the Old Series.*

1. A Biographical Dictionary of persons who knew Mohammad, by Ibn i Hajar, edited in Arabic by Maulawies Abd-al Haqq and Ghulam Qādir and Capt. W. N. Lees, Nos. 209, 211, and 214. Fasc. IV., V., and VI.

2. The Sāhitya-Durpaṇa or Mirror of Composition, a treatise on literary criticism; by Viś'wanātha Kavirāja, translated into English by Babu Pramādādāsā Mitra and the late James R. Ballantyne, L.L.D., Nos. 212 and 213. Fasc. I. and II.

3. The Taittirīya Brāhmaṇa of the Black Yajur Veda, with the commentary of Sāyanāchārya, edited by Babu Rajendralāla Mitra. No. 210, Fasc. XX.

*Coin Cabinet.*

The only contribution of any moment received for the Numismatic Cabinet is a collection of miscellaneous coins from Capt. Stubbs, including several copper Bactrians, a few silver Greeks and Pathans, and a



gold *hán*. But advantage has been taken of an order of the Government of India to melt down all native coins with a view to withdraw them from circulation, and a large number of Pathan, Moghol, and Náráyani coins have been purchased from the Mint at the price of bullion. A good set of Assam silver coins and some dated Bengal Pathans have also been secured for the Society by exchange of duplicates.

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The report having been read, it was moved by the President and voted unanimously, that the report just read be approved.

The meeting then proceeded to elect the Council and Officers for the ensuing year.

It was proposed by the President and agreed to, that Dr. S. B. Partridge and Mr. H. Leonard be appointed Scrutineers of the ballot.

The ballot having been taken, the President announced, on the report of the Scrutineers, that the following gentlemen had been elected to serve on the Council for the ensuing year.

COUNCIL.

E. C. Bayley, Esq. *President*.

Dr. S. B. Partridge.

Bábu Jádavakrishna Singh. } *Vice Presidents.*

W. L. Heeley, Esq.

A. Grote, Esq.

Major W. N. Lees.

W. S. Atkinson, Esq.

Dr. J. Fayrer.

Dr. T. Anderson.

Dr. D. Boyes Smith.

W. Stokes, Esq.

Lieut.-Col. J. E. Gastrell, *Treasurer*.

H. F. Blanford, Esq., *General Secretary*.

Bábu Rájendralála Mitra, *Philological Secretary*.

Dr. J. Anderson, *Natural History Secretary*.

The President then addressed the meeting as follows:—

“ I had proposed, before making over the Chair to my successor on this occasion, to read some remarks to the Meeting on the Proceedings of our Society during the past year, but the leisure for preparing them

has failed me, and my address, which would I fear under any circumstances have been a very imperfect one, is fortunately the less necessary, in consequence of the fullness of the Council's report which has just been read to you.

"There is cause, I think for congratulating the Society on the progress of its labours described in that report, and on the success which has marked its efforts for extending the influence of its Journal, and for improving the condition of the Museum. For the change in the form of the Journal we are indebted to our able and assiduous Secretary, Mr. Blanford; it was at his suggestion that the Council adopted the present double publication, a form which at once adapts the Journal for wider circulation, and leaves our members free to call only for that Part of it in which they take an interest. For the improvements so conspicuous in the Museum, the Society has mainly to thank the Curator of the new Indian Museum, Dr. J. Anderson, who by permission of Government, is in charge of the Society's collections. The Council have done all in their power to give Dr. Anderson the means of making these improvements, and they trust with the assistance of Government to enable him to push them further, pending the construction of the new building, to which the collections are eventually to be transferred.

"The Philological Committee has, perhaps, on the whole, been more active during the year than the other Committees of the Council. The loss of our late able Secretary, Mr. Cowell, has, however, been much felt by that Committee as well as by the Council. Now that Mr. Cowell has finally determined on not rejoining his Indian appointment, I take this opportunity of laying before the Meeting the sense entertained by the Council of the great services rendered to the Society by that eminent scholar during his incumbency. His qualifications are likely to be more especially missed shortly, if, as proposed by the Philological Committee, the Society carry out the undertaking of publishing a revised edition of the *Ayin-i-Akbari*.

"The report has noticed the progress made in the publication of the series of Persian historians. I see that exception has been taken by an oriental scholar at home to the omission, by the editors of the works published, of the general histories with which the historians always commence. I doubt whether such objections will be shared

by orientalists generally. It would have added considerably to the costliness of the publication, had the MSS. been published in full, and the continuity of the series is better preserved by omitting an unnecessary repetition.

"I am glad to find, in the report, a recognition justly due to Mr. Locke, of the services which he and his School of Art have lately rendered to the Society. I may point to the casts now on the table in evidence of the value of those services in one branch of art only. There is promise, I am glad to say, of further assistance from him in other branches. I cannot conclude these brief remarks without expressing the same acknowledgments of the Council and of myself personally to Mr. Blanford, Dr. J. Anderson and Bábu Rájendralala Mitra for the zeal and ability with which they have discharged their Secretariat duties during the year, and to Lieut.-Col. Gastrell for the earnestness with which he has taken up the charge of the Society's finances since his appointment as Treasurer."

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The meeting then resolved itself into an Ordinary Monthly Meeting.

The minutes of the previous meeting were read and confirmed.

The following presentations were announced :—

1. From His Highness Ráma Varmá, the First Prince of Trivándrum, a copy of "a letter on the utility of the study of the Sanskrit Language."

2. From Major J. G. Gowan, a copy of "Iconologia or Moral Emblems," by C. Ripa.

3. From W. S. Atkinson, Esq., a specimen of fossil wood from the petrified Forest of Cairo.

4. From Bábu Rám Doss Sen, a copy of an Address on the Language and Literature of Asia, by F. Sedden, Esq.

5. From Major B. Ford, Port Blair, three skulls, and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallows' nests, an incomplete skeleton of *Sus Andamanensis*; an Andaman bow and a fishing basket; and specimens illustrating the Conchology of Andamanese Islands.

The following letter accompanied these donations :—

"I have taken advantage of the opportunity afforded me by the kind offer of Dr. David B. Smith on his present visit to the Settlement,

to forward, for the acceptance of the Asiatic Society, a selection illustrative of the conchology of the Andaman Islands.

"I am uncertain as to whether I forward anything not already in the possession of the Asiatic Society. I may mention, however, that in making the selection, an effort has been made of sending as many varieties as possible. Dr. Smith has kindly undertaken to have those shells now sent, properly identified and classed, and to let me know of any wanting to make the selection a better one, which I will endeavour to do.

"I take this opportunity of sending by the kind care of Dr. Smith, three skulls which are known to be those of Andamanese. I have seen the circular lately put forth by the Society regarding craniological researches, and I shall be glad if these specimens now sent be found to afford any further knowledge or clue to the origin or distinctive characteristics of this new Island race. I have also entrusted to Dr. Smith's care, 2 skulls of the *Sus Andamanensis*, also a Black Saurian which I believe to be peculiar in its distribution to these Islands, and a few more objects that may be of interest.

"(Signed) B. FORD, Major.

Port Blair, 14th Dec., 1865."

Supdt., Port Blair.

The special thanks of the Society to Major Ford were proposed by the President, and unanimously voted.

6. From the Rev. J. Long, the following books:—

Stubelii, A. Basilii, *fabri sorani Thesaurus Ervditionis Scholasticæ. Lipsiæ*, 1717, folio.

Bocharti, S. Hierozoicon sive bipartitum opus de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol.

Bocharti, S. Hierozoici sive bipartiti operis de Animalibus S. Scripturæ. *Lugduni Batavorum*, 1692, fol. pars posterior.

Vossii, Etymologicon Lingvæ Latinæ. *Lugduni*, 1664, fol.

Meninski, F. à. M. Linguarum orientalium Turcicæ, Arabicæ, Persicæ institutiones seu Grammatica Turcica. *Viennæ Austriæ*, 1680, Royal 4to.

Sharpe, A. G. Syntagma Dissertationum, *Oxonii*, 1767, 4to. Vol. II.

Iudicia è multis quædam virorum reverendorum, Nobilissimorum ac Clarissimorum de laboribus Dn. P. Kirstenii, *Lipsiæ*, 1611, 4to.

Sacy, S. de, Mémoires sur diverses antiquités de la Perse. *Paris*, 1793, 4to.

Catalogo della Libreria Capponi. *Roma*, 1747, 4to.

Aryda, A. Institutiones Grammaticae Arabicae. *Viennae*, 1813, 4to.

Leigh, E. Critica Sacra: or observations on all the Radices, or Primitive Hebrew words of the Old Testament in alphabetical order. *London*, 1662, 4to.

Brigant, M. le, Observations fondamentales sur les Langues anciennes et modernes. *Paris*, 1787, 4to.

Bythneri, V. Lyra Prophetica Davidis Regis sive Analysis Critico-practica Psalmorum. *Londini*, 1653, 4to.

Schultens, A. Excursus primus ad caput Primum viæ veteris et regiae Hebraizandi. *Lugduni Batavorum*, 1739, 8vo.

Masclef, F. Grammatica Hebraica, a punctis aliisque inventis masorethiis libera. *Parisiis*, 1743, 8vo.

Valckenaer, L. C. Ammonius de adfinium Vocabulorum differentia. *Lugduni Batavorum*, 1739, 8vo.

Paradigmata de quatuor Linguis orientalibus præcipvis, Arabica, Armena, Syra, Æthiopica. *Parisiis*, 1596, 8vo.

A Persian MS., Ferishta's "Guzerat."

On the proposition of the President, the special thanks of the meeting were voted to the Rev. J. Long.

7. From Col. Brown, Moulmein, skins of *Psitta Cucullata* and one *Scolopax Rusticola*.

8. From the Rev. J. Long, on part of J. Avdall, Esq. specimens of a Burmese Candle and Ear-ring.

Mr. D. Waldie remarked that these specimens appeared to be made of paraffine or some similar hydrocarbon. He had seen pieces of such material from Burmah, and the specimen on the table appeared to be of the same character. At the request of the President, Mr. Waldie undertook to examine the specimens and report thereon to the Society.

Letters were read—

1. From the Government of India, Home Department, forwarding ten communications describing storms in various parts of the world, and which had been forwarded for the use of the late Mr. Piddington.

From E. C. BAYLEY, Esq., *Secy. to the Govt. of India.*

TO THE SECRETARY, ASIATIC SOCIETY.

*Dated, Fort William, the 22nd Dec., 1865.*

Home Dept.

Sir,—The Society are doubtless aware that the late Mr. Piddington published a Horn Book on the Law of Storms, and was engaged in collecting materials to enlarge his publication.

Since his death, several communications, ten in number, have been received in this office relating to various storms met with by the writers during their voyages. These communications are herewith forwarded to the Society, for any use they may think proper to make of them.

I have, &c.,

(Sd.) E. C. BAYLEY,

*Secy. to the Govt. of India.*

2. From F. Fedden, Esq., containing a few notes on Fire-flies.

"I see that in Part II., No. III. under "Notes and Queries" there has been a slight discussion on the fireflies, as to their emitting their light simultaneously in flashes. The fact is perfectly correct, as described in the quotations from "The Reader" and Cameron's works. I have often observed in parts of Burmah, near the streams in the Bassein district especially, the fireflies appear to hover about the bushes in myriads, and simultaneously emit their intermittent light irrespective of wind or extraneous causes apparently. At times, one end of the bush will commence to emit light, that will spread as a flash across to the other end, by which time the former will be in darkness: or one bush or portion may be illuminated, while another has just been extinguished."

"Have you ever observed the noise the white ants make when disturbed, perhaps at night when committing their ravages on some matting or straw? The noise they cause, always reminds me of the simultaneous flashing of the fireflies. The noise is produced by the white ant sharply driving forward his forceps into anything it may be on (the straw or the matting) and tearing a small fragment away. They do this intermittently and almost simultaneously, one portion perhaps commencing slightly before the mass (as a signal) and ceasing so much earlier."

(Sd.) F. FEDDEN.

Mr. R. D. Stewart observed that he had seen the same rhythmical flashing of the fire-flies at Tallygunge, and Mr. Long had also seen a similar phenomenon near Calcutta.

3. From Mr. W. Theobald, Jr. forwarding some notes on fire-flies.

Referring to a discussion which took place at a former meeting of the Society on the habit of fire-flies flashing simultaneously, Mr. Theobald described a case that he had witnessed in the Irawaddy delta, east of the Bassein river, in which large numbers of fire-flies around some bushes on the bank of the river, emitted their flash rhythmically and simultaneously.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

A. Mackenzie, Esq., Lieut.-Col. D. Broune, Lieut. W. G. Hughes, Capt. F. C. Hamilton, Lieut. G. Seaton, A. Rattray, Esq., J. H. Crawford, Esq. C. S., Major A. Allen, Bábu Gánendra Mohun Tágore, Rev. J. Barton, J. Low, Esq., J. G. Hicks, Esq.

The following gentlemen were named for ballot as ordinary members at the next meeting.

N. Daly, Esq., Forest Dept., Myanoung, Burmah, proposed by Mr. Theobald and seconded by Mr. Blanford.

G. W. Hoyle, Esq., proposed by Mr. Blanford and seconded by Mr. Locke.

J. H. Johnson, Esq., G. T. S., proposed by Dr. Stoliczka and seconded by Mr. Blanford.

The Rev. J. Cave Brown, Kidderpore, for re-election, proposed by Mr. Grote and seconded by Mr. Blanford.

A letter from R. B. Chapman, Esq., intimating his desire to withdraw from the Society, was recorded.

The Council recommended, on the part the Philological Committee, that the Yóga Darsána be published in the Sanskrit series of the Bibliotheca Indica.

The Council reported that 136 duplicate bird-skins have been added to the museum during the last two months.

The following communications were received :—

1. From C. Horne, Esq., C. S., "Notes on the Pi-lo-shan-na of General Cunningham."

2. From W. Theobald, Esq., Jr., "Notes and Queries on Zoology."

3. From C. Horne, Esq., C. S., "Notes on an ancient Hindu Temple at Malaon."

4. From Col. J. T. Walker a translation of a paper by Capt. Golubief, "Observations on the astronomical points determined by the brothers Schlagintweit in Central Asia."

5. From W. Masters, Esq., Professor of Kishnaghur College. "A few notes on the earthquakes that lately disturbed Lower Bengal."

6. From Profr. R. Von Schlagintweit of Giessen, "Comparative hypsometrical and physical tableau of High Asia."

This paper of which the following is an abstract, was read by the Secretary.

The object of Mr. Schlagintweit's paper was to give a summary of the Physical features of High Asia, and to institute a comparison of them with the corresponding features of the Alps and Andes. The subject was treated under six heads, viz. : Geographical configuration; Hydrography; the Phenomena of snow, glaciers, &c.; Habitations; Extreme heights visited by man; and the Limits of vegetable and animal life. The author sought to correct the prevailing impression that Tibet is an elevated table land, an idea which still holds its ground, in spite of the writings of Humboldt, Strachey, Cunningham and Thomson. Between the Karakorum and Künlun, especially over the western crest of the former, there are several elevated tracts of between 16,000 and 18,000 ft. These tracts are below the snow-line, and without vegetation. Beyond these, in the far distance, snowy peaks are perceived, besides which are nothing but barren rocks and extensive sterile plains, well watered however, by glacier streams. The plateaux of the Andes are more extensive than those of the Himalaya, and have large towns at elevations of from 11,000 to 14,000 ft. The mean height of 19 passes in the Himalaya is 17,800 ft; the mean of three in the Karakorum 18,700, and that of two in the Künlun, 17,000 ft. The highest in the Himalaya is the Gâmin Pass leading from Garhwal to Gnari Khorsum at an elevation of 20,459 ft. In the Andes, the average elevation of the passes is 14,000 ft.

Of the peaks of the Himalaya, 17 exceed 25,000 ft., 40 are above 23,000 ft., and 120 are above 20,000 ft.; the highest is Mount Everest, which is 29,000 ft. The highest of the Karakorum range is that known as K. 2, which is 28,278 ft. in height, and second only to



Mount Everest. None of the peaks yet measured in the Künlun exceed 22,000 ft. The highest peak of the Andes is Aconcagua 23,004 ft. The highest of the Alps are Mont Blanc, 15,784 ft. and Monte Rosa 15,223 ft.

The lakes and springs in the Himalaya were next discussed and compared with those of the Andes; the lakes of the Himalaya were shewn to be of no great size, but to range up to 16,620.

The snows of the Himalaya have been known to extend in winter down to 2,500 ft, but the average limit may be placed at about 5,000 ft. The summer snow-line is lower on the southern than the northern flank of the range, as was first pointed out by Webb and Moorcroft; being 16,200 ft. for the former, and 17,400 ft. for the latter. This anomaly is attributed to the greater dampness of the atmosphere to the south of the range.

The greatest height visited by the brothers Schlagintweit is, as measured by them, 22,239 ft., but Mr. Glaisher has ascended in a balloon to a height of at least 30,000 ft., at which he became unable to take further observations, and it is believed that he rose as high as 36,960 ft. This is the greatest elevation ever reached by man.

On the Hinnalaya, trees extend up to 11,800 ft. and extensive forests occur a little below this height; grain is cultivated up to the same maximum elevation. Shrubs extend up to 15,200 ft. or nearly the height of Mont Blanc, and in the Karakorum up to 16,419 ft. Monkeys range up to beyond 11,000 ft. and Tigers to the same height in the Himalaya. Neither of these are met with, however, in Western Thibet. Leopards occur at 13,000 and 14,000 ft. and jackals between 16,000 and 17,000 ft. Dogs accompany the Thibetan shepherds up to 18,000 ft. The ranges of some of the lower animals were also noticed. Doves appear to range higher than any other birds.

## LIST OF ORDINARY MEMBERS.

The \* distinguishes Non-Subscribing and the † Non-Resident Members.

Date of Election.			
1847 June	2.	†Abbott, Lieut.-Col. J., Artillery.	Umballa
1860 Dec.	5.	Abdool Luteef, Khan Bahadur, Maulavi.	Calcutta
1865 June	7.	Agabeg, J. Esq.	Calcutta
1860 July	4.	†Ahmad Khan Saïed, Bahadur.	Allyghur
1862 April	2.	†Aitchison, C. U. Esq., C. S.	Lahore
1862 April	4.	†Aitchison, J. E. T. Esq., M. D.	Unrisar
1859 Feb.	2.	*Alabaster, C. Esq.	China
1852 July	7.	*Allen, C. Esq., B. C. S.	Europe
1864 May	4.	†Alexander, N. S. Esq., C. S.	Purneah
1860 Oct.	3.	Amir Ali, Khan, Múnshí.	Calcutta
1861 May	1.	Anderson, Dr. T., F. L. S.	Calcutta
1865 Jan.	11.	Anderson, Dr. J., F. L. S.	Calcutta
1843 Sept.	4.	*Anderson, Lieut.-Col. W., Bengal Artillery.	Europe
1864 Dec.	7.	Anderson, W. Esq.	Calcutta
1860 Nov.	7.	†Anley, W. A. D., Esq.	Chaprah
1862 Oct.	8.	Apurva Krishna, Rajah, Bahadur.	Calcutta
1859 Oct.	12.	Archer, Dr. C.	Calcutta
1861 Sept.	4.	Asghur Ali, Khan Bahadur, Nawab.	Calcutta
1861 July	3.	*Asphar, J. J. T. H. Esq.	Europe
1864 Dec.	7.	†Atkinson, E. F. T. Esq.	Jaunpore
1855 July	4.	Atkinson, W. S. Esq., M. A., F. L. S.	Calcutta
1861 Feb.	6.	†Austen, Capt. H. H. G., H. M.'s 24th Foot, Surv. Genl.'s Dept.	Dehra Dhoon
1826 Sept.	6.	Avdall, J. Esq.	Calcutta
1835 Oct.	7.	*Baker, Col. W. E., Bengal Engineers.	Europe
1865 Nov.	1.	Ball, V. Esq.	Calcutta
1860 Nov.	7.	Banerjea, Rev. K. M.	Calcutta
1864 May	4.	*Barry, Dr. J. B.	Europe
1862 Aug.	6.	†Basevi, Capt. J. P., Royal Engineers.	Dehra Dhoon
1860 July	4.	*Batten, G. H. M. Esq., B. C. S.	Europe
1838 Jan.	3.	†Batten, J. H. Esq., B. C. S.	Almorah
1859 May	4.	Bayley, E. C. Esq., B. C. S.	Calcutta

Date of Election.			
1861 Feb.	6.	Bayley, S. C. Esq., B. C. S.	Calcutta
1849 June	6.	Beadon, Hon'ble C., B. C. S.	Calcutta
1864 Sept.	7.	†Beames, J. Esq., C. S.	Purneah
1841 April	7.	Beaufort, F. L. Esq., B. C. S.	Calcutta
1861 Sept.	4.	†Beavan, Lieut. R. C., late 62nd B. N. I.	Roorkie
1847 Aug.	4.	*Beckwith, J. Esq.	Europe
1830 Sept.	1.	*Benson, Lieut.-Col. R.	Europe
1862 Dec.	3.	†Bernard, C. E. Esq.	Nagpore
1862 Aug.	6.	Beverley, H. Esq., C. S.	Calcutta
1862 June	4.	†Bhau Daji, Dr.	Bombay
1862 July	2.	Bhola Nath Mullick, Bábu.	Calcutta
1864 Nov.	2.	Bhoodeb Mookerjee, Bábu.	Chinsurah
1840 July	15.	*Birch, Major-General Sir R. J. H., K. C. B.	Europe
1864 May	4.	Bird, Dr. R., Civil Surgeon.	Howrah
1846 Mar.	4.	*Blaggrave, Major T. C., 26th Regt., B. N. I.	Europe
1859 Sept.	7.	Blane, Lieut.-Col. S. J.	Calcutta
1857 Mar.	4.	Blanford, H. F. Esq., A. R. S. M., F. G. S.	Calcutta
1859 Aug.	3.	†Blanford, W. T. Esq., A. R. S. M., F. G. S. Geol. Surv.	Bombay
1864 April	6.	Blochmann, H. Esq., M. A.	Calcutta
1857 Aug.	2.	*Bogle, Lieut.-Col. Sir A., Kt.	Europe
1859 Aug.	3.	Bolie Chand Singh, Bábu.	Calcutta
1864 Mar.	2.	Bowie, Lt. G. M. Madras Staff Corps.	Calcutta
1859 Oct.	12.	†Bowring, L. B. Esq., B. C. S.	Bangalore
1854 Nov.	1.	*Boycott, Dr. T., B. M. S.	Europe
1865 May	3.	†Bradford, C. W. V. Esq.	Hooghly
1860 Mar.	7.	†Brandis, Dr. D.	Rangoon
1860 Oct.	3.	†Brandreth, J. E. L. Esq.	Rowal Pindee
1864 Dec.	7.	Branson, J. H. A. Esq.	Calcutta
1862 Jan.	15.	*Briggs, Major D.	Europe
1847 June	2.	*Brodie, Capt. T., 5th Regt., B. N. I.	Europe
1860 Nov.	7.	†Browne, Capt. Horace A.	Rangoon
1863 Aug.	5.	†Bunkim Chunder Chatterjee, B. A. Bábu.	Barripore
1856 Sept.	3.	Busheerooddin, Sultan Mohammad.	Chinsurah
1859 April	6.	Calcutta, Right Rev. Lord Bishop of.	Calcutta
1860 June	6.	†Campbell, C. J. Esq., C. E.	Delhi
1859 Sept.	7.	*Campbell, Dr. A.	Europe
1863 June	3.	Campbell, Hon'ble G.	Calcutta
1860 Jan.	3.	†Carnac, J. H. Rivett, Esq., B. C. S.	Nagpore
1865 Nov.	1.	†Carnegy, P. Esq.	Oudhe
1856 Sept.	3.	Chapman, R. B. Esq., B. C. S.	Calcutta

Date of Election.			
1860 Oct.	3.	†Christian, J. Esq.	Monghyr
1863 Aug.	5.	†Chunder Nath Roy, Cowar.	Natore
1863 April	1.	*Cleghorn, Dr. H.	Europe
1863 June	3.	†Clementson, E. W. Esq.	Moulmein
1864 May	4.	†Cline, G. W. Esq.	Nagpore
1861 Sept.	4.	†Cockburn, J. F. Esq., C. E.	Kurhurbari Colliery
1862 April	2.	Colles, J. A. P. Esq., M. D.	Calcutta
1851 Mar.	5.	*Colvin, J. H. B. Esq., B. C. S.	Europe
1860 Dec.	5.	†Cooper, F. H. Esq., B. C. S.	Delhi
1857 Mar.	4.	*Cowell, E. B. Esq., M. A.	Europe
1861 July	3.	*Crockett, Oliver R. Esq.	China
1862 April	2.	*Dahynple, F. A. E. Esq., C. S.	Europe
1847 June	2.	†Dalton, Lieut.-Col. E. T., 9th Regt. B. N. I.	Chota Nag- pore
1861 Mar.	6.	†Davey, N. T. Esq., Revenue Survey.	Cachar
1865 May	3.	†Davies, C. Esq.	Rotasghur
1861 Nov.	6.	*Davies, R. H. Esq., B. C. S.	Europe
1864 July	6.	†Debendra Mullick, Babu.	Calcutta
1856 June	4.	†DeBourbel, Major R., Bengal Engrs.	Assam
1861 June	5.	†Denison, His Excellency Sir W., K. C. B.	Madras
1863 Feb.	4.	†Deo Narain Singh, Hon'ble Rajah.	Benares
1863 June	3.	†Depree, Capt. G. C., Royal Artillery.	Chota Nag- pore
1861 Mar.	6.	*Devereux, Hon'ble H. B., B. C. S.	Europe
1862 May	7.	†Dhruapati Sinha Dooghur, Babu.	Moorshedabad
1853 Sept.	7.	Dickens, Lieut.-Col. C. H.	Calcutta
1860 Nov.	7.	Digumber Mitra, Babu.	Calcutta
1861 Jan.	9.	†Dodsworth, W. T. Esq.	Dehra Dhoon
1859 Sept.	7.	*Douglas, Lieut.-Col. C.	Europe
1854 July	5.	†Drummond, Hon'ble E., B. C. S.	Allahabad
1861 Feb.	6.	†Duhan, H. Esq., G. T. Survey.	Dehra Dhoon
1864 Dec.	7.	Dunlop, H. G. Esq.	Calcutta
1860 Jan.	4.	*Duka, Dr. T.	Europe
1861 May	1.	*Earle, Capt. E. L., Bengal Artillery.	Europe
1857 May	6.	*Eatwell, Dr. W. C. B.	Europe
1840 Oct.	7.	*Edgeworth, M. P. Esq., B. C. S.	Europe
1863 Mar.	4.	Eden, Hon'ble A.	Calcutta
1863 May	6.	†Edgar, J. W. Esq., B. C. S.	Cachar
1859 May	4.	*Edmonstone, Hon'ble G. F., B. C. S.	Europe
1865 Feb.	1.	†Egerton, P. H. Esq., B. C. S.	Unrisar

Date of Election.			
1846 Jan.	7.	*Elliott, Walter, Esq., M. C. S.	Europe
1859 Nov.	2.	*Elliott, C. A. Esq., B. C. S.	Europe
1863 April	1.	†Ellis, Hon'ble R. S., C. S., C. B.	Madras
1856 Mar.	5.	*Ellis, Lieut.-Col. R. R. W., 23rd Regt. B. N. I.	Europe
1854 Nov.	1.	†Elphinstone, Capt. N. W. 4th Regt. B. N. I.	Jullundur
1861 Jan.	9.	*Erskine, Hon'ble C. J., B. C. S.	Europe
1856 Aug.	6.	*Erskine, Major W. C., C. B.	Europe
1863 Oct.	7.	Ewart, Dr. J.	Calcutta
1862 Aug.	6.	*Eyre, Col. Vincent, C. B.	Europe
1865 June	7.	Fawcus, Dr. J.	Calcutta
1851 May	7.	Fayrer, Dr. J., B. M. S.	Calcutta
1863 Jan.	15.	†Fedden, Francis, Esq., Geol. Survey.	Calcutta
1865 Aug.	2.	Fenn, S. Esq.	Calcutta
1859 Oct.	12.	†Fisher, A. Esq.	China
1860 Mar.	7.	Fitzwilliam, Hon'ble W. S.	Calcutta
1865 April	5.	Fleming, Dr. J. M. 29th P. N. I.	Barrackpore
1861 Feb.	6.	†Forrest, R. Esq., Civil Engineer.	Etawah
1863 Dec.	2.	†Forsyth, Lieut. J.	Nagpore
1863 June	3.	†Forsyth, T. D. Esq., C. B.	Lahore
1860 Mar.	7.	†Frere, His Excellency Sir H. Bartle, K. C. B., B. C. S.	Bombay
1861 Sept.	4.	†Fuller, Capt. A. R.	Lahore
1859 Oct.	12.	†Furlong, Major J. G. R.	Agra
1859 Dec.	7.	Futteh Ali, Maulavi.	Calcutta
1849 Sept.	5.	*Fytche, Lieut.-Col. A., 70th Regt. B. N. I.	Europe
1864 Aug.	11.	†Garrett, C. B. Esq., C. S.	Shahabad
1859 Aug.	3.	Gastrell, Lieut.-Col. J. E., 13th Regt. N. I., Rev. Survey.	Calcutta
1859 Sept.	7.	Geoghegan, J. Esq., B. C. S.	Calcutta
1865 June	7.	†Giles, A. H. Esq.	Dinajpore
1842 Sept.	2.	*Gladstone, W. Esq.	Europe
1859 Sept.	7.	*Goodeve, E. Esq., M. D.	Europe
1862 July	2.	†Gordon, J. D. Esq., C. S.	Pubna
1864 Dec.	5.	†Gooroochurn Dáss, Bábu.	Jahanabad
1862 Feb.	5.	†Gourdoss Bysack, Bábu.	Hooghly
1863 Nov.	4.	†Gowan, Major J. G.	Saugor
1859 Dec.	7.	*Grant, Sir J. P., K. C. B.	Europe
1860 Jan.	4.	Grant, T. R. Esq.	Calcutta
1860 July	4.	Grey, Hon'ble W., B. C. S.	Calcutta
1861 Sept.	4.	†Griffin, L. Esq., B. C. S.	Lahore
1860 Nov.	7.	†Griffith, R. T. H. Esq.	Benares

Date of Election.			
1849 Aug.	1.	Grote, A. Esq., B. C. S., F. L. S.	Calcutta
1861 Feb.	6.	†Growse, F. S. Esq., B. C. S.	Mynpoorie
1862 Feb.	5.	*Guthrie, Col. C. S., Bengal Engrs.	Europe
1847 June	2.	*Hall, F. E. Esq., M. A., D. C. L.	Europe
1860 May.	2.	*Halleur, Dr. H.	Europe
1863 June	3.	†Hamilton, Col. G. W.	Delhi
1855 Mar.	7.	*Hamilton, R. Esq.	China
1828 Nov.	12.	*Hamilton, Sir R. N. E., Bart., B. C. S.	Europe
1847 May	5.	*Hannington, Col. J. C., 63rd Regt. N. I.	Europe
1859 Oct.	12.	*Hardie, Dr. G. K.	Europe
1863 Mar.	4.	Hari Dass Dutt, Bábu.	Calcutta
1862 Oct.	8.	*Harrington, Hon'ble H. B.	Europe
1860 Oct.	3.	†Harris, E. B. Esq., Civil Surgeon.	Deoghur
1861 Feb.	6.	†Harrison, A. S. Esq., B. A.	Behar
1864 Nov.	2.	Hatton, C. W. Esq.	Calcutta
1859 Oct.	12.	*Harrison, Lieut.-Col. J. C.	Europe
1848 May	3.	Harrison, Maj.-Genl Sir J. B., K. C. B.	Europe
1862 Aug.	6.	Heeley, W. L. Esq., C. S.	Calcutta
1859 Aug.	3.	*Henessey, J. B. N. Esq.	Europe
1853 July	6.	†Herschel, W. J. Esq., B. C. S.	Midnapore
1854 Mar.	1.	*Hichens, Lieut. W., Bengal Engrs.	Europe
1860 May	2.	†Hobhouse, C. P. Esq., B. C. S.	Midnapore
1859 Sept.	7.	†Hopkinson, Major H.	Assam
1863 July	1.	†Horne, C. Esq., C. S.	Mynpoorie
1860 Mar.	7.	Hovenden, Major J. J., Bengal Engrs.	Calcutta
1863 Jan.	15.	†Howell, M. S. Esq., C. S.	Shajehanpore
1860 Jan.	4.	†Innes, Major J. J. M.	Lahore
1862 Oct.	8.	†Irwin, Valentine, Esq., C. S.	Narail, Jessore
1853 Dec.	7.	†Ishureeprasád Sinha, Bahadur, Rajah.	Benares
1864 Sept.	7.	Jackson, Hon'ble E.	Calcutta
1861 Jan.	9.	Jackson, Hon'ble L. S., B. C. S.	Calcutta
1841 April	7.	*Jackson, W. B. Esq., B. C. S.	Europe
1851 April	2.	Jádava Krishna Sinha, Bábu.	Calcutta
1864 June	1.	†Jadu Nauth Mookerjee, Bábu.	Rajshahi
1861 Dec.	4.	†James, Major H. R., C. B.	Peshawur
1864 Sept.	7.	†Jardine, R. Esq., C. S.	Etawah
1865 Nov.	1.	Jennings, S. Esq.	Calcutta
1845 Dec.	3.	†Jerdon, Dr. T. C., M. M. S.	Umballa
1847 June	2.	*Johnstone, J. Esq.	Europe
1862 Mar.	5.	*Johnstone, Capt. J., Assistant Com- missioner.	Europe
1859 Sept.	7.	*Jones, R. Esq.	Europe

Date of Election.			
1865 June	7.	†Joykissen Dáss Bahadur, Rajah.	Allyghur
1864 Feb.	3.	Kaliprosonno Dutt, Bábu.	Calcutta
1858 Feb.	3.	Kaliprosonno Sinha, Bábu.	Calcutta
1863 July	1.	*Kane, H. S. Esq., M. D.	Europe
1859 Mar.	2.	Kásinath Roy Chaudhuri, Bábu.	Cásipore, Calcutta
1850 April	3.	*Kay, Rev. W., D. D.	Europe
1861 Dec	15.	†Kempson, M. Esq., M. A.	Barcilly
1862 Jan.	15.	†King, W. Esq., Jr., Geol. Survey.	Madras
1839 Mar.	6.	*Laidlay, J. W. Esq.	Europe
1861 Mar.	6.	*Laing, Hon'ble S.	Europe
1863 Sept.	2.	Lane, T. B. Esq., B. C. S.	Calcutta
1851 Dec.	3.	†Layard, Major F. P.	Bhagulpore
1864 Feb.	3.	†Leeds, H. Esq., Conservator of Forests.	Burmah
1852 April	7.	Lees, Major W. N., LL. D.	Calcutta
1859 Dec.	7.	Leonard, H. Esq., C. E.	Calcutta
1865 June	7.	†Lewin, Lieut. T. H.	Chittagong
1856 Feb.	6.	*Liebig, Dr. G. Von, B. M. S.	Europe
1860 Jan.	4.	Lindsay, E. J. Esq.	Calcutta
1861 Nov.	6.	†Lloyd, Capt. M.	Toungahoo
1862 Dec.	3.	Lobb, S. Esq., M. A.	Calcutta
1835 Oct.	7.	Loch, Hon'ble G., B. C. S.	Calcutta
1864 Nov.	2.	Locke, H. H. Esq.	Calcutta
1828 July	2.	*Low, Major-General Sir J., K. C. B.	Europe
1861 April	3.	†Lumsden, Major P. S.	Gowhatty
1854 Nov.	1.	*Lushington, F. A. Esq., B. C. S.	Europe
1848 April	5.	*MacLagan, Lieut.-Col. R., F. R. S. E.	Europe
1865 Nov.	1.	†Macgregor, Lieut. C.	Buxa
1853 April	6.	Macrae, Dr. A. C., B. M. S.	Calcutta
1863 Jan.	15.	Maine, Hon'ble H. S.	Calcutta
1860 Jan.	4.	Mair, D. K. Esq., M. A.	Calcutta
1865 Mar.	1.	Malleson, Major G. B.	Calcutta
1862 Sept.	3.	Mallet, F. R. Esq.	Calcutta
1860 July	4.	*Man, E. G. Esq.	Europe
1852 Nov.	3.	Manickjee Rustomjee, Esq.	Calcutta
1861 June	5.	†Mán Sinha Bahadur, Mahárajah.	Ondh
1864 Aug.	11.	*Marks, Rev. J. Ebenezer.	Europe
1850 Jan.	2.	*Marshman, J. C. Esq.	Europe
1862 Sept.	3.	†Martin, R. L. Esq., B. A.	Dacca
1863 Oct.	7.	†Martin, T. Esq., C. E.	Gowhatty
1863 Nov.	4.	*McClelland, Dr. J.	Europe
1837 Oct.	4.	†McLeod, Hon'ble D. F., C. B., B. C. S.	Lahore
1860 Mar.	7.	†Medlicott, H. B. Esq., F. G. S.	Gwalior

Date of Election.		
1853 April 6.	†Medlicott, J. G. Esq. B. A.	Midnapore
1861 Feb. 6.	†Melville, Capt. A. B., late 67th N. I. Surv. Genl.'s Dept.	Dehra Dhoon
1855 Nov. 7.	*Middleton, J. Esq.	Europe
1850 April 3.	*Mills, A. J. M. Esq., B. C. S.	Europe
1860 April 4.	†Money, A. Esq., B. C. S.	Bhagālpore
1847 April 7.	*Money, D. J. Esq., B. C. S.	Europe
1856 Feb. 6.	Money, J. W. B. Esq.	Calcutta
1865 July 5.	†Morland, Major J.	Muree
1854 Dec. 6.	*Morris, G. G. Esq., B. C. S.	Europe
1864 June 1.	†Moula Bukhsh, Khan Bahadur, Maulvi.	Patna
1837 July 5.	*Muir, J. Esq.	Europe
1854 Oct. 11.	Muir, Hon'ble W. B. C. S.	Calcutta
1859 Aug. 3.	†Murray, Lieut. W. G., 68th N. I.	Mussoorie
1862 July 2.	*Napier, Hon'ble Major-Genl Sir R., K. C. B.	Europe
1860 Nov. 7.	*Newmarch, Major C. D.	Europe
1865 Feb. 1.	†Newul Khishwar, Moonshee.	Lucknow
1852 Sept. 1.	*Nicholls, Capt. W. T., 24th Regi- ment, M. N. I.	Europe
1863 Sept. 2.	†Norman, Capt. F. B.	Benares
1863 Jan. 15.	Norman, Hon'ble J. P.	Calcutta
1859 Aug. 3.	Obbard, J. Esq.	Calcutta
1860 June 4.	†Oldham, C. Esq., Geological Survey.	Madras
1851 June 4.	Oldham, T. Esq., LL. D., F. R. S.	Calcutta
1864 Dec. 7.	Onslow, D. B., Esq.	Barrackpore
1837 June 7.	*O'Shaughnessy, Sir W. B.	Europe
1847 Feb. 10.	*Ousely, Major W. R.	Europe
1864 Mar. 2.	Palmer, Dr. W. J.	Calcutta
1862 May 7.	Partridge, S. B. Esq., M. D.	Calcutta
1860 Feb. 1.	†Pearse, Major G. G.	Madras
1864 Mar. 2.	†Pellew, F. H. Esq., C. S.	Burrisal
1865 Sept. 6.	†Peppe, J. H. Esq.	Gya
1835 July 1.	†Phayre, Lt.-Col. A. P., C. B.	Rangoon
1864 Nov. 2.	Phear, Hon'ble J. B.	Calcutta
1862 Oct 8.	†Poolin Behary Sen, Bābu.	Berhampore
1849 Sept. 5.	Pratapchandrab Saikha, Rajah, Bahadur	Calcutta
1839 Mar. 6.	Pratt, Ven'ble Archdeacon J. H., M. A.	Calcutta
1860 Jan. 4.	Preonath Sett, Bābu.	Calcutta
1825 Mar. 9.	*Prinsep, C. R. Esq.	Europe
1837 Feb. 1.	Prosonno Coomaz Tagore, Bābu.	Calcutta
1864 Feb. 3.	†Pullan, Lieut. A., G. T. Survey.	Mussoorie



Date of Election			
1862 April	2.	Raban, Major H.	Calcutta
1853 April	6.	Radha Nath Sikdar, Bábu.	Calcutta
1849 Sept.	5.	Rajendra Dutt, Bábu.	Calcutta
1856 Mar.	5.	Rajendralála Mitra, Bábu.	Calcutta
1864 May	4.	Ramánath Bose, Bábu.	Calcutta
1837 Feb.	1.	Ramánath Tagore, Bábu.	Calcutta
1865 July	5.	†RamSDen, Lieut. W. C.	Julpygorie
1860 Mar.	7.	*Reid, H. S. Esq.	Europe
1864 Dec.	7.	†Richardson, R. J. Esq., C. S.	Gya
1857 June	7.	Riddell, H. B. Esq., B. C. S.	Calcutta
1857 Aug.	6.	†Roberts, Hon'ble A. A., B. C. S.	Panjab
1863 April	1.	†Robertson, C. Esq., C. S.	Allahabad
1864 Dec.	7.	†Robertson, E. S. Esq.	Azimghur
1863 May	6.	†Robertson, H. D. Esq., C. S.	Saharunpore
1862 Mar.	5.	Robinson, Lieut.-Col. D. G., Bengal Engineers.	Calcutta
1865 Feb.	1.	Robinson, S. H. Esq.	Calcutta
1853 Aug.	3.	*Roer, Dr. E.	Europe
1847 Dec.	1.	*Rogers, Capt. T. E.	Europe
1859 Sept.	7.	*Russell, A. E. Esq., B. C. S.	Europe
1864 Dec.	7.	Sarkies, J. C. Esq.	Calcutta
1865 June	7.	†Sárodáprosád Mookerjee, Bábu.	Baraset
1859 Feb.	2.	Satischunder Roy Mahárajah.	Krishnagur
1856 Aug.	6.	Satyasharana Ghosal, Rajah.	Bhookylas, Calcutta
1861 Dec.	4.	†Saunders, C. B. Esq., B. C. S.	Mysore
1864 June	1.	*Saunders, J. O'B. Esq.	Europe
1854 Dec.	6.	†Saxton, Lt.-Col. G. H., F. G. S., 38th M. N. I.	Vizagapatam
1854 May	2.	Schiller, F. Esq.	Calcutta
1860 Feb.	1.	*Scott, Col. E. W. S.	Europe
1865 Nov.	1.	Scott, J. M. Esq.	Calcutta
1859 Aug.	3.	†Scott, W. H. Esq.	Dehra Dhoon
1863 Sept.	3.	Shama Churn Sirkar, Babu.	Calcutta
1860 July	4.	†Shelverton, G. Esq.	Dehra Dhoon
1845 Jan.	14.	*Sherwill, Lt.-Col. W. S., 66th Regiment B. N. I., F. G. S., F. R. G. S.	Europe
1864 Nov.	2.	Short, Lt.-Col. W. D., R. E.	Calcutta
1863 April	1.	*Showers, Major C. L.	Europe
1864 Feb.	3.	Shumbhoonath Pundit, Hon'ble.	Calcutta
1864 Sept.	7.	†Sladen, Capt. E. B.	Mandalay
1865 July	5.	Smith, D. Boyes, Esq. M. D.	Calcutta
1856 Feb.	6.	*Smith, Col. J. F.	Europe
1854 Sept.	6.	†Spankie, R. Esq., B. C. S.	Jaunpore
1864 Mar.	2.	†Spearman, Lieut. H. R.	Shoaygyen

Date of Election.			
1860 May	2.	†Staunton, Major F. S., Beng. Engs.	Darjiling
1843 Sept.	4.	*Stephen, Major J. G., 8th N. I.	Europe
1863 Jan.	15	†Sterndale, R. A. Esq.	Nagpore
1862 Oct.	2.	†Stevens, C. C. Esq.	Buxar
1863 May	6.	†Stevens, W. H. Esq.	Sylhet
1863 Sept.	2.	Stewart, R. D. Esq.	Calcutta
1864 April	6.	†Stewart, J. L. Esq. M. D.	Lahore
1861 Sept.	4.	Stokes, Whitley, Esq.	Calcutta
1863 Nov.	4.	Stoliczka, Dr. F.	Calcutta
1848 June	7.	Strachey, J. Esq., B. C. S.	Calcutta
1843 May	3.	*Strachey, Lt.-Col. R., F. R. S., F. L. S., F. G. S.	Europe
1859 Mar.	2.	*Stubbs, Capt. F. W., Beng. Artillery.	Europe
1861 Oct.	2.	†Sudderuddin, Moonshi.	Pundooah
1858 July	7.	†Sutherland, H. C. Esq., B. C. S.	Backergunje
1864 Aug.	11.	Swinhoe, W. Esq.	Calcutta
1865 Sept.	6.	Tawney, C. H. Esq.	Calcutta
1865 April	5.	†Taylor, R. Esq.	Madras
1860 May	2.	*Temple, R. Esq., B. C. S.	Europe
1859 Mar.	2.	†Theobald, W. Esq., Jr., Geological Survey.	Thayet Myo
1860 June	6.	Thompson, J. G. Esq.	Calcutta
1863 Mar.	4.	†Thompson, Major G. H., Bengal Staff Corps.	Hazareebaugh
1855 June	6.	*Thompson, Dr. T., M. D., F. R. S., F. L. S., F. R. G. S.	Europe
1853 Nov.	21.	†Thornhill, C. B. Esq., B. C. S.	Allahabad
1863 June	4.	†Thornton, T. H. Esq.	Murree
1847 June	2.	*Thuillier, Lt.-Col. H. L., F. R. G. S., Bengal Artillery.	Europe
1863 May	6.	Thuillier, Lt. H. R.	Calcutta
1862 July	2.	*Thurlow, Hon'ble T. J. H.	Europe
1865 July	5.	†Tolbort, T. W. H. Esq., C. S.	Mooltan
1865 July	5.	Tonnerre, Dr. C. F.	Calcutta
1862 Feb.	5.	†Torrens, Col. H. D.	Simla
1861 June	5.	†Tremlett, J. D. Esq., C. S.	Lahore
1863 Mar.	4.	*Trevelyan, Right Hon'ble Sir C., K. C. B.	Europe
1841 Feb.	3.	Trevor, Hon'ble C. B., B. C. S.	Calcutta
1863 Feb.	4.	*Trevor, E. T. Esq., B. C. S.	Europe
1864 Mar.	2.	*Trevor, Lt. E. A. Royal Eng.	Europe
1864 July	6.	*Trotter, Lieut. H. Bengal Eng.	Meerut
1864 Sept.	4.	Tween, A. Esq., Geological Survey.	Calcutta
1863 May	6.	†Tyler, Dr. J.	Etah

Date of Election.			
1860 May	2.	*Vanrenen, Capt. A. D., late 71st B. N. I.	Europe
1864 Feb.	3.	†Verchere, A. M., Esq., M. D.	Kohat
1864 April	6.	†Vijayarāma Gajapati Raj Munnia Sultan Bahadur, Maharajah Mirza.	Vezeanagram
1865 Nov.	1.	Waldie, D. Esq.	Calcutta
1861 May	1.	†Walker, Lt.-Col J. T., Bom. Engrs.	Dehra Dhoon
1863 Dec.	2.	†Walker, A. G. Esq.	Shahapur, Panjab
1863 May	6.	*Wall, P. W. Esq., C. S.	Europe
1863 Oct.	7.	Waller, Dr. W. K.	Calcutta
1863 Dec.	2.	Walters, Rev. M. D. C.	Calcutta
1862 Jan.	15.	†Ward, G. E. Esq.	Dehra Dhoon
1852 July	7.	*Ward, J. J. Esq., B. C. S.	Europe
1859 July	6.	*Warrand, R. H. M. Esq., B. C. S.	Europe
1865 May	3.	†Waterhouse, Lieut. J., Royal Artillery.	Delhi
1854 July	5.	*Watson, J. Esq., B. C. S.	Europe
1847 Nov.	3.	*Wagh, Major-General Sir A. S., C. B., F. R. S., F. R. G. S.	Europe
1862 Oct.	8.	Wheeler, J. T. Esq.	Calcutta
1864 July	6.	†Whishaw, J. C. Esq., Civil Surgeon.	Fyzabad
1864 Mar.	2.	Wilkinson, C. J. Esq.	Calcutta
1861 Sept.	4.	*Williams, Dr. C., H. M.'s 68th Regt.	Europe
1859 Sept.	7.	†Wilson, W. L. Esq.	Beerbhoom
1859 Aug.	3.	†Wilmot, C. W. Esq.	Deoghur
1865 Feb.	1.	†Wilmot, E. Esq.	Delhi
1861 May	7.	Woodrow, H. Esq., M. A.	Calcutta
1859 Mar.	2.	*Wortley, Major A. H. P.	Europe
1862 Aug.	6.	*Wylie, J. W. Esq., Bombay C. S.	Europe
1855 April	4.	*Young, Lt.-Col. C. B.	Europe
1856 July	2.	*Yule, Lt.-Col. H.	Europe

## LIST OF HONORARY MEMBERS.

Date of Election.			
1825 Mar.	9.	M. Garcin de Tassy, Membre del' Inst.	Paris
1826 "	1.	Sir John Phillippart.	London
1829 July	1.	Count De Noe.	Paris
1831 Sept.	7.	Prof. Francis Bopp, Memb. de l' Académie.	Berlin
1831 "	7.	Prof. C. Lassen.	Bonn
1834 Nov.	5.	Sir J. F. W. Herschel, F. R. S.	London
1834 "	5.	Col. W. H. Sykes, F. R. S.	London
1835 Mar.	6.	Prof. Lea.	Philadelphia
1840 Mar.	4.	M. Reinaud, Memb. de l' Institut., Prof. de l' Arabe.	Paris
1842 Feb.	4.	Dr. Ewald.	Göttingen
1842 "	4.	Right Hon'ble Sir Edward Ryan, Kt.	London
1843 Mar.	30.	Prof. Jules Mohl, Memb. de l' Institut.	Paris
1847 May	5.	His Highness Hekekyan Bey.	Egypt
1847 Sept.	1.	Col. W. Munro.	London
1847 Nov.	3.	His Highness the Nawab Nazim of Bengal.	Moorsshedabad
1848 Feb.	2.	Dr. J. D. Hooker, R. N., F. R. S.	London
1848 Mar.	8.	Prof. Henry Princeton.	United States
1853 April	6.	Major-Gen. Sir H. C. Rawlinson, K. C. B., F. R. S., D. C. L.	London
1854 Aug.	2.	Col. Sir Proby T. Cantley, K. C. B., F. R. S.	London
1855 Mar.	7.	Rájá Rádhákánta Deva, Báhádur.	Brindabun
1858 July	6.	B. H. Hodgson, Esquire.	Europe
1859 Mar.	2.	Hon'ble Sir J. W. Colville, Kt.	Europe
1860 "	7.	Prof. Max Müller.	Oxford
1860 Nov.	7.	Mons. Stanislas Julien.	Paris
1860 "	7.	Col. Sir George Everest, Kt., F. R. S.	London
1860 "	7.	Dr. Robert Wight.	London
1860 "	7.	Edward Thomas, Esquire.	London
1860 "	7.	Dr. Aloys Sprenger.	Germany
1860 "	7.	Dr. Albrecht Weber.	Berlin
1865 Sept.	6.	Edward Blyth, Esquire.	Europe

## LIST OF CORRESPONDING MEMBERS.

1844 Oct.	2.	MacGowan, Dr. J.	Europe
1856 June	4.	Kremer, Mons. A. Von.	Alexandria
1856 "	4.	Porter, Rev. J.	Damascus
1856 "	4.	von Schlagintweit, Herr H.	Berlin
1856 "	4.	Smith, Dr. E.	Beyrout
1856 "	4.	Tailor, J., Esquire.	Bussorah

Date of Election.				
1856	June	4.	Wilson, Dr.	Bombay
1857	Mar.	4.	Neitner, J., Esquire.	Ceylon
1858	„	3.	von Schlagintweit, Herr H. R.	Berlin
1859	Nov.	2.	Frederick, Dr. H.	Batavia .
1859	May	4.	Blecker, Dr. H.	Batavia
1860	Feb.	1.	Baker, Rev. H.	E. Malabar
1860	„	1.	Swinhoe, R., Esq., H. M.'s Consulate.	Amoy
1860	April	4.	Haug, Dr. M.	Poonah
1861	July	3.	Gosche, Dr. R.	Berlin
1862	Mar.	5.	Murray, A., Esquire.	London
1863	Jan.	15.	Goldstücker, Dr. T.	London
1863	July	4.	Barnes, R. H. Esquire.	Ceylon

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#### LIST OF ASSOCIATE MEMBERS.

1835	Oct.	7.	Stephenson, J., Esquire.	Europe
1838	Feb.	7.	Keramut Ali, Saïed.	Hooghly
1843	Dec.	6.	Long, Rev. J.	Calcutta
1865	May	3.	Dall, Rev. C. H. A.	Calcutta

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ELECTIONS IN 1865.  
HONORARY MEMBER.

Edward Blyth, Esq.

Europe

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ASSOCIATE MEMBER.

Rev. C. H. A. Dall.

Calcutta

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ORDINARY MEMBERS.

Dr. John Anderson.	Calcutta
Lieut. J. H. Urquhart, R. E.	Bhootan
P. H. Egerton, Esq., B. C. S.	Unnritsar
Moonshee Newal Kishur.	Lucknow
S. H. Robinson, Esq.	Calcutta
E. Wilnot, Esq.	Delhi
Major G. B. Malleison.	Calcutta
R. Taylor, Esq.	Allahabad
Dr. J. M. Fleming, 29th P. N. I.	Barrackpore
C. W. V. Bradford, Esq.	Hooghly
C. Davies, Esq.	Rotasghur
Lieut. J. Waterhouse, R. A.	Delhi
J. Agabeg, Esq.	Calcutta
A. H. Giles, Esq.	Dinajpur
Rajáh Joykissen Dáss, Bahadur.	Allyghur
Lieut. T. H. Lewin.	Chittagong.
Babu Sároodáprosuno Mookerjee.	Baraset
Dr. J. Fawcus.	Calcutta
Major J. Morland.	Muree
Lieut. W. C. Ramsden.	Julpigoree
D. Boyes Smith, Esq., M. D.	Calcutta
T. W. H. Tolbort, Esq., C. S.	Mooltan
Dr. C. F. Tonnerre.	Calcutta
S. Fem, Esq.	Calcutta
J. H. Peppe, Esq.	Gya
C. H. Tawney, Esq.	Calcutta
P. Carnegie, Esq.	Ondhe
Lieut. C. Macgregor.	Buxa
J. M. Scott, Esq.	Calcutta
V. Ball, Esq.	Calcutta
S. Jennings, Esq.	Calcutta
D. Waldie, Esq.	Calcutta

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## LOSS OF MEMBERS DURING THE YEAR, 1865.

*By retirement.*

## ORDINARY MEMBERS.

Dr. C. R. Francis.	Calcutta
Lient.-Col. S. R. Tickell.	Moulmein
H. D. Sandeman, Esq.	Calcutta
C. S. Hogg, Esq.	Calcutta
Capt. E. Smyth.	Almorah
Babu Taruck Chunder Sircar.	Calcutta
C. H. Barnes, Esq.	Bhagulpore
R. E. Goolden, Esq.	Calcutta
Dr. B. Simpson.	Darjeeling
J. W. McGrindle, Esq.	Calcutta
Capt. D. Macdonald.	Barrackpore
Dr. F. N. Macnamara.	Calcutta
Capt. T. G. Montgomerie.	Dehra Dhoon
Rajah Bunsput Sinha.	Allahabad
A. B. Sampson, Esq.	Calcutta
Babu Govin Chunder Sen.	Calcutta
C. Boulnois, Esq.	Calcutta
Lient.-Col. F. D. Atkinson.	Calcutta
W. P. Duff, Esq.	Calcutta
Babu Joygopal Bysack.	Calcutta
E. G. Porter, Esq., C. S.	Bancoorah
Capt. H. Hyde.	Calcutta
Col. H. W. Norman, C. B.	Calcutta
Babu Juggodanund Mookerjee.	Calcutta
Rev. W. G. Cowie.	Calcutta

*By Death.*

## HONORARY MEMBER.

Dr. H. Falconer.

Europe

## ORDINARY MEMBERS.

Lient. J. H. Urquhart, R. E.	Bhootan
Hon'ble E. P. Levinge.	Calcutta
Lient.-Col. P. Stewart, R. E.	Europe
Babu Modhoosoodun Dáss.	Dacca
Brig.-General St. G. D. Shower.	Calcutta
E. O. Riley, Esq.	Bassein
R. T. Martin, Esq.	Calcutta
W. Murray, Esq., B. C. S.	Gowhatty
W. F. Goss, Esq.	Sumbulpore
Chunder Siker Roy, Rajah.	Julpigori
Moulavi Waheedoon Nubee Khan Bahadur.	Calcutta

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR FEBRUARY, 1866.



The monthly general meeting of the Asiatic Society of Bengal was held on the 7th instant.

E. C. Bayley, Esq., President, in the chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced—

1. From the Rev. J. Long, 2 copies of "Five hundred questions on the social condition of the Natives of India."

2. From J. F. Browne, Esq., a copy of "A General Report on the Tipperah District."

3. From J. Avdall, Esq., a copy of "Notice sur le Couvent Arménien de l'île S. Lazare de Venise by V. Langlois."

4. From Dr. J. Anderson, a young specimen of *Gavialis Gangeticus*. A specimen of *Crocodylus Porosus*. Two specimens of *Halcyon Smyrnensis* (white-breasted king-fisher). A specimen of *Athene Brama* (spotted owl). Two specimens of *Pteropus Edwardii* (flying fox): One of *Caprimulgus Asiaticus* (Common Indian Goat-Sucker): one of *Budytes Viridis* (Wagtail): Two of *Anthus Rufalus* (Slender Lark): Three of *Gyps Bengalensis* (Vulture), and one of *Dicrurus Macrocerus* (King Crow).

5. From Col. Phayre, three Burmese skulls and one from the Shan States.

6. From the Under-Secretary to the Govt. of Bengal, a box containing a specimen of sand poured forth near Thannah Roajan in Chittagong, on the occasion of the late earthquake.



The following letters accompany the donation :—

No. 309.

*From J. GEOGHEGAN, Esq.,*

*Under-Secretary to the Government of Bengal.*

*To THE SECRETARY*

*to the Asiatic Society of Bengal.*

*Fort William, the 16th, January 1866.*

SIR,—I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of communications received from the Commissioner of Chittagong, Nos. 483 and 501, dated, respectively, the 27th ultimo and 3rd instant, and of the enclosed report from the Magistrate of Chittagong on the series of earthquakes which occurred in that district during December last. A sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate, is also forwarded herewith.

I have &c.

(Sd.) J. GEOGHEGAN,

*Under-Secretary to the Govt. of Bengal.*

*From W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 483, dated the 27th December, 1865.)*

Forwarded for the information of the Government of Bengal. The undersigned hopes to be able shortly to report further particulars that may be of interest.

*From A. SMITH, Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1392, dated the 18th December, 1865.)*

Sir,—I have the honor to report to you the occurrence of a series of earthquakes commencing on the evening of the 15th instant.

2. One shock on that and another on the following evening were severe, and most masonry buildings have suffered damage.

3. About as many as twelve or fourteen distinct shocks have been counted, the last of which was about 12 o'clock to-day.

*From W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 501, dated the 3rd January, 1866.)*

Forwarded for the information of the Lieutenant-Governor of Bengal in continuation of this office Memo. No. 483, dated the 27th ultimo ;

with a sample of the sand referred to in the memorandum of Mr. Wilson, the Officiating Joint-Magistrate.

*From A. SMITH, Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1443, dated the 29th December, 1865.)*

Sir,—In my No. 1392 of 18th instant, I had the honor to report to you the occurrence of a series of earthquakes commencing on the evening of Friday, the 15th, and extending to the morning of Wednesday, the 20th instant.

2. The following are, as nearly as possible, the times of occurrence of the most marked shocks, but I fear they must be taken only as approximate, and are not sufficiently accurate to be of any use for scientific purposes :—

1st	Friday, December 15th,	6-50	P. M.
2nd	" " "	7-10	" "
3rd	" " "	10-30	" "
4th	Saturday, " 16th,	2-0	A. M.
5th	" " "	4-0	" "
6th	" " "	6-15	P. M.
7th	" " "	8-40	" "
8th	Monday, " 18th,	12-0	Noon.
9th	Tuesday, " 19th,	2-0	P. M.
10th	" " "	10-0	" "
11th	Wednesday, " 20th,	2-0	A. M.

3. Of these shocks the first was very violent and caused considerable injuries to several of the masonry buildings in the station. The sixth also was severe; none of the others were so.

4. During the time from Friday evening to Sunday morning, there was observed a faint tremulous motion of the earth, and many people counted more shocks than I have enumerated during that period, but those I have given were the most marked and the best authenticated. The doubtful ones have been excluded.

5. In Thannah Roajan the earth's surface cracked in several places, and poured forth jets of water and a fine dark coloured sand, in appearance very much resembling the common medicinal preparation called grey powder. I enclose you a specimen of the sand, which differs in

appearance from the ordinary sand of the district, and which it would, perhaps, be worth while to submit to the Chemical Examiner of the Government for analysis.

6. From a memorandum by Mr. Wilson, the Joint-Magistrate, who visited the place of ejectment, and to whom I am indebted for the specimen, it appears that no sand has ever been found there in the deepest excavations, so that it must have been forced up from a great depth.

7. Similar jets and fissures appear to have also occurred near Mr. Miller's tea garden on the Sungoo.

8. It may also be worth mentioning that my camp being at the time in its vicinity, I visited on Saturday, the 16th instant, the burning well at Koomaree Koond. This is one of five such wells on the Seetacoond range which are ordinarily supposed to be connected with internal volcanic agency. At the time of my visit it was burning, an igneous gas rising from the surface of the water and igniting in contact with the atmosphere, but it gave no emissions of more than the ordinary strength; nor, so far as can be ascertained, did any of the others, during these recent indications of internal volcanic action.

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"I yesterday visited Mouzah Guzara, in Thannah Roajan, for the purpose of examining the effects which were reported to have been produced there by the late earthquake.

"I found that in several places sand and water had burst out of cracks in the clay soil. None of these jets or springs were at work when I went to the place, but each had left a heap of fine dark coloured sand. These heaps are of various sizes. The smallest is as large as a mole hill, and the largest which I saw perfect was about 12 feet in diameter and about 3 feet in the centre. This sand heap (on the land of Syud Sultan) was still wet at 3 o'clock yesterday, and the ground around it on all sides shewed signs of having been recently flooded. It appears that this jet of sand and water, which no doubt began to play at the time when the first violent shock of the earthquake was felt, (6-50 p. m., 15th December, 1865) went on working till ten or half past ten the next morning. The water rose (I was told) some inches from the ground, and (as far as I could learn) it was cold.

"About a mile from this place, on the land of Durjotee Roy, the ground cracked to the length of 38 feet. The direction is from N. N. E. to S. S. W. The ground on the E. of this crack sank to the depth of about a foot, and a great heap of sand, some 3 or 3½ feet high and 10 or 12 feet across, rose from the centre. I measured the length of the crack and the depth of the sinking of the ground, but most of the sand had been cleared away before my visit, by the neighbouring villagers, for use as a charm. The crack must have been about 6 inches wide in the middle. All the sand thrown up must have come from a considerable depth, as nothing but clay has ever been found in the deepest excavation in the neighbourhood or within many miles. I believe no sandy soil is to be found in any part of the trough shaped country lying between the Nizampore range and the eastern hills."

(Sd.) R. H. WILSON.

*The 20th December, 1865.*

No. 572.

*From S. C. BAYLEY, Esq.,*

*Junior Secretary to the Government of Bengal.*

*To THE SECRETARY*

*to the Asiatic Society of Bengal.*

*Fort William the 30th January, 1866.*

Sir,—In continuation of the letter from this Office, No. 309, dated the 16th instant, I am directed by the Lieutenant-Governor to forward, for the information of the Council of the Asiatic Society, the accompanying copy of a communication from the Commissioner of Chittagong, No. 517, dated the 6th idem, and of its enclosed detailed report from the Executive Engineer, on the series of earthquakes which occurred in that District during December last. Copy of a further communication\* from the Commissioner, with its annexure, reporting the occurrence of another earthquake at 4-20 A. M. of the 6th January, is also herewith forwarded.

I have &c.,

(Sd.) S. C. BAYLEY,

*Junior Secretary to the Govt. of Bengal.*

\* No. 522, dated the 8th instant.

*Memorandum from W. GORDON YOUNG, Esq., Commissioner of the Chittagong Division,—(No. 517, dated the 6th January, 1866.)*

Submitted to the Government of Bengal in continuation of this office No. 501, dated 3rd instant.

*Extract paragraphs 1 to 9, from a letter from the Executive Engineer, to the Superintending Engineer, South-Eastern Circle, No. 1538, without date.*

Para. 1.—In continuation of the telegram which I sent you late in the evening of the 16th instant, informing you of five shocks of earthquake having been felt at this station on the night of the 15th between half-past 7 and half-past 10 o'clock p. m., I have now the honor to furnish the following details respecting it for your information.

2. There is a good deal of difference of opinion as to whether the shocks came from the west or the east, and as to the kind of noise which accompanied them ; some state one thing and some another, differing as to many particulars, and which, no doubt, arises from the nervousness of the parties narrating ; but all agree that they were severe, and that the first shock was the severest of the five.

3. I can only state what I felt and heard myself. The first shock was very severe, and lasted for about two minutes and a half ; it came from the north-west, and was preceded by a noise, like to that which a great wind would make at a distance.

4. It made a similar noise to that which one sometimes hears from a coming nor'wester, and this continued throughout the time of the first shock. There was, however, no wind blowing at the time, nor anything to speak of during the night.

5. The last four shocks were comparatively slight, and lasted not more than five seconds each, and they were accompanied by no noises of any kind.

6. Several slight shocks of earthquake have been felt every night of [since?] the 15th instant, and some during each day, but they are nothing worth mentioning, and cannot do any harm.

7. All the pucca buildings in the station have been more or less shaken and cracked and injured : more especially so, those buildings which lie east and west.

8. The following are the public buildings which have been injured

and cracked severely, and to which considerable repairs will have to be done:—The Episcopal Church; the old Salt Office, a two-storied building now occupied by the Police; the Magistrate's Cutcherry; the Judge's Cutcherry, and the Circuit House.

9. The public buildings that have been slightly injured are—the Commissioner's Cutcherry, Custom House, Jail buildings, School, and Military Hospital.

*Memorandum from R. PEREIRA, Esq., Assistant to the Commissioner of the Chittagong Division,—(No. 522, dated the 8th January 1866.)*

In the temporary absence of the Commissioner from head-quarters, the undersigned begs to submit, for the information of the Hon'ble the Lieutenant-Governor of Bengal, copy of the following report from the Collector and Magistrate of Chittagong in continuation of this office [Memo.] No. 517, dated the 6th instant.

*From A. SMITH, Esq., Magistrate and Collector of Chittagong, to the Commissioner of the Chittagong Division,—(No. 1472, dated the 6th January, 1866.)*

SIR,—In continuation of my No. 1443 of 29th December, 1865, I have the honor to report the occurrence of another slight earthquake at 4-20 A. M. this morning."

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Mr. Blanford stated that he had examined the sand under the microscope, and that it appeared to be ordinary river sand. There was nothing of a volcanic character in it, nor did it appear that a chemical analysis would throw any important light on its origin. It had, no doubt, been washed up from the lower part of the alluvial formation.

7. From Babu Rajendra Mullick, specimens of a *Paephagus Grunniens* (yâk).

A *Nasua Rufa* (Coaiti Mondî).

A *Cerionis Satyra* (Tragopan).

A *Anser Indicus* (bare-headed goose).

A *Psittacus Erythacus* (Grey African Parrot).

8. From A. Grote, Esq., a skeleton of an Alderney Bull.

9. From Major B. Macbean, a specimen of an Up-country Bull.

E. C. Bayley, Esq. exhibited, on the part of Dr. Fayrer, two Knives used in human sacrifices in Central India.

The Council submitted a recommendation that Emil Von Schlagint-

weit, Esq. and the Rev. M. A. Sherring, be elected corresponding members of the Society.

The Council reported that they had nominated the following gentlemen to serve in the several Committees in the ensuing year.

#### LIST FOR 1866.

##### *Finance.*

Lient.-Col. J. E. Gastrell.

J. Geoghegan, Esq.

##### *Philology.*

Major W. N. Lees.

A. Grote, Esq.

Báboo Jádava Krishna Sing.

H. Blochmann, Esq.

J. Geoghegan, Esq.

Moulvie Abdul Luteef Khan Bahadur.

##### *Library.*

Major W. N. Lees.

Dr. T. Anderson.

T. Oldham, Esq.

Dr. D. Boyes Smith.

W. S. Atkinson, Esq.

Dr. F. Stoliczka.

##### *Natural History Committee.*

Dr. T. Anderson.

Dr. J. Fayrer.

Dr. T. C. Jerdon.

Dr. S. B. Partridge.

Dr. D. Boyes Smith.

W. S. Atkinson, Esq.

W. Theobald, Esq., Jr.

A. Grote, Esq.

Baboo Debendra Mullick.

Dr. F. Stoliczka.

T. Oldham, Esq.

*Meteorological and Physical Science.*

T. Oldham, Esq.  
J. Obbard, Esq.  
J. Strachey, Esq.  
Lieut.-Col. J. E. Gastrell.  
Capt. J. P. Basevi.  
Dr. S. B. Partridge.  
Dr. T. Thomson.  
Lieut.-Col. J. E. T. Walker.

*Coin Committee.*

A Grote, Esq.  
Major W. N. Lees.  
Capt. F. W. Stubbs.

*Committee of Papers.*

All the members of the Council.

*Statistical Committee.*

Hon'ble G. Campbell.  
J. Strachey, Esq.  
Dr. J. Ewart.  
C. B. Garrett, Esq.  
Lieut.-Col. J. E. T. Walker.

The President and the Secretaries are ex-officio members of all the Committees.

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Letters from the Hon'ble A. Eden, H. Duhan, Esq., and Babu Cási Náth Chowdhori, intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members.

N. Daly, Esq.  
G. W. Hoyle, Esq.  
J. H. Johnson, Esq.

The Rev. J. Cave Brown was re-elected.

The following gentlemen were named for ballot as ordinary members.

W. Irvine, Esq., B. C. S., Mozuffernugger, proposed by Mr. H. F. Blandford, seconded by Mr. E. C. Bayley.



Bábu Kádár Náth Mookerjea, proposed by Major G. B. Malleon, seconded by Mr. H. F. Blanford.

Dr. J. F. Wise, Chittagong, proposed by Dr. D. B. Smith, seconded by Dr. J. Anderson.

A. P. Macdonell, Esq., proposed by Mr. W. L. Heeley, seconded by Mr. H. H. Locke.

The Hon'ble G. Campbell gave notice that at the next meeting he would move that the Punjab Government be requested to take measures for obtaining an accurate knowledge of Arián languages (other than Hindee) spoken in the territories of His Highness the Maharajah of Cashmere. He addressed the meeting as follows :—

“ On a former occasion I ventured to bring to the notice of the Society an Ethnological subject, and I have been encouraged by finding that I have been the humble instrument of bringing into the field several most learned and scientific men, who are interested in the prosecution of the object to which the motion was directed, which the Society and the Council were good enough to adopt. In fact, it is now evident, that as this country, in a far greater degree than any other in the world, offers an unlimited field for ethnological observation and inquiry, and presents an infinity of varieties of almost every one of the great divisions of the human race, so also there is no lack of able and qualified men to reap this abundant harvest. I have been delighted to know that on the proposition of my friend, Dr. Fayrer, an effort is likely to be made to obtain that which I have long desired to see, a collection of living humans more interesting and more varied than any bullocks. Meantime I seek permission to call attention to another local subject of inquiry. My former motion was more especially directed to the relics of an ancient Non-Caucasian and probably pre-Caucasian race, existing in our immediate vicinity as well as throughout Central India, and I suggested that inquiry should be directed not only to language, but also to physical form and other particulars. I now wish to go to the other extreme of the human scale; to remind the Society, that as we have among us the very lowest varieties of the race, so we also have within the field of our inquiry in India the very highest varieties, the most pure and perfect Caucasian races still existing in the Indian portion of the Caucasian range; and to call attention to the fact that, while the physique of these races has attracted much

notice, their languages have been, singular to relate, almost wholly neglected ; so that, we are in truth nearly ignorant of them. It is impossible to conceive any more probable key to many of the great problems involved in the growth and spread of the Arian races, than in the languages of the most pure of those races, secluded in their own mountains for hundreds and thousands of years. One at least of these tongues is not that of rude mountaineers, but the most ancient and most highly cultivated written language of one of the most ancient, most learned, most ingenious, and most imaginative people on the face of the globe,—a people, in fact, who in intellect, as in beauty are unrivalled in Asia, perhaps in the world. Yet, strange to say, of this Cashmeeree language we actually know less than the little we know of the tongues of Coles and Sontals and Sub-Himalayan savages. In the pages of Max Müller and Latham and Pritchard, these latter tribes and tongues find a place, but of the Cashmeeree language, not enough has yet been ascertained even to classify it in the roughest way—neither its class, its character, nor its affinities are to be found in those handbooks. The only very slight information published on the subject is contained in two papers in the Journal of this Society, and they are both taken from information supplied by Mahomedans of Loodianah, who, both by religion and consequent Persian education, and by very long expatriation, must have been very unsafe guides. My friend, Bábu Rajendra Lal Mitra, has promised me a note on the essence of the information to be derived from these papers, but at least it is so meagre that, as I have said, it has never been used to classify the language.

“I have lately been in Cashmere, and made many inquiries on the subject, but neither my time nor my philological qualifications were sufficient to do anything substantial. One thing is clear, viz. that the Cashmeeree is *entirely* different from Hindee. It is in no respect a mere dialect of Hindee, like the Punjabee and other immediately cognate tongues, but a totally distinct language. Though clearly in the main a Sanscritic tongue, it seemed to me more different from Hindee than either Bengalee or Maharattee, or any other language of the Northern family. Unfortunately the long predominance of Mahomedan rule, and the conversion, many hundred years since, of most of the population, has caused the supercession of the indigenous literature by Per-

sian, and the use of the Persian character for modern Cashmeeree writing. But the old characters are still in use among the Shawl-weavers, and the country, as is well known, still swarms with most learned pundits, to whom Sanscrit is as familiar as Latin to the pundits of Europe, and who are able and willing to restore to its proper character and to grammatical shape their native tongue, the more so as the country is now again under Hindoo rule. North-west of Cashmere again there is another, quite different and widely spread language, also clearly Arian. This is the language of Chilas, the Kylas, Olympus, or Heaven of the Hindoos. It is spoken by the independent mountaineers on the Hazareh Frontier, thence throughout Chilas, which is the westerly hill territory of the Maharajah of Cashmere, and in *Ghilghit*, the recent Central-Asian acquisition of the Maharajah. Some of the people in my road called it 'Dardu Gal' or the language of the Dards, and I have since noticed that Vigne alludes to it and gives it much the same limits which I have mentioned, under the name of the 'Dangree' language. There are dialects, but all the people within these limits understand one another. I got together several people from those parts, and put them through the primary words and phrases by which the affinity of a language may usually be tested. Although the Chilas tongue is a different language from the Punjabee, and the Punjabees cannot understand it, it seemed to me to be a good deal nearer to Hindee or Punjabee than the Cashmeeree. And the same remark seems to apply to all that has appeared of the languages of Chitral and Kafferistan, which are probably, I should think, nearly related to that of Chilas. Those which I have mentioned are the only unknown Arian languages. The Punjabee runs up through the hills to the frontier of Cashmere in one direction, and to that of Afghanistan in another. Even my small knowledge enabled me to ascertain that the language of the Maharajah's most northerly subjects or tributaries beyond Ghilghit is palpably Turkish, and to the East, the pretended descendants of Alexander, the Baltis of Iskardo, speak the Thibetan language which their features would lead us to expect. Chitral and Kafferistan form but a narrow strip projected along the ridge of the Caucasus, and enclosed between the Pushtoo speaking Affghans on one side, and the Persian speaking Badakshanees on the other. My present object is not directed to the Chitral and Kaffir

dialects; we have no means of acquiring an accurate knowledge of these tongues, and the nearest accessible territory is the British district of Peshawur, where both Officials and Missionaries are settled, and have devoted their best endeavours to obtain information regarding the neighbouring people and languages. I direct my remarks to the two Arian languages, those of Cashmere and Chilas, which as yet remain unknown, owing to peculiar circumstances, although the means of knowing them is easily available. They are both spoken in the territories of the Maharajah of Cashmere, whose hospitality to British travellers is great, and who gives every facility to the many who traverse the length and breadth of his dominions. But none of the country being British, and the snow closing the roads for a great part of the year, there is not, and never has been, a single British permanent resident either Official, Missionary, or any other, and not a single European has any knowledge of the indigenous languages. They are all mere summer tourists, to whom the Hindostanee and Punjabee of the Jummoo officials is amply sufficient. The native pundits, though so learned and intelligent, do not take up philology without some official guidance. Hence our ignorance in the midst of abundant means of knowledge. Usually these things are far better left to private enterprise, but under the special circumstances of this case I wish to suggest the advantage of a little official aid. The Lieutenant-Governor of the Punjab is one of ourselves, a man devoted to science: individually he is of all men the most ready to aid such objects, and I feel confident that he only requires the assurance that the object is considered one of public interest, to give it his official aid also. The Maharájá is, as I have said, most hospitable and most ready to assist British enterprises. The Governor of Cashmere, Dewán Kirpá Rám, is one of the most enlightened and progressive native gentleman of the age. I am confident that he would aid us. At Lahore, an Oriental University has just been started with magnificent aid from the Viceroy, and there are many Cashmeeree pundits well skilled in their own language. They are more numerous and more learned in Cashmere, where men of Chilas also are always to be found. In my small inquiries I was fortunate enough to be aided by the Dewán Kirpá Rám, and also by a most intelligent young native gentleman of high position, Pundit Rám Jen, adopted son and

heir of the late Farmer-General of the Shawl Revenue, who, in addition to an excellent knowledge of his own language and of Sanscrit and Persian, has taught himself something of the English language and Grammar, and is alone quite capable of constructing a Cashmeeree Grammar with a little aid from an English Grammarian. In short, the means of acquiring the desired knowledge lie abundantly ready to hand. Some movement only is required to start the subject. I do not think that I can be wrong in supposing it to be of eminent importance. If anywhere is to be found the connecting link between the Sanscrit and the modern languages of India, it must be in the speech of the pure Brahmin population of Cashmere, for the whole population is of Brahmin race : those not converted to Mahomedanism, are still, without any exception, Brahmins : no other caste is known, and the Persian and Arabic of the Mahomedans is merely overlaid in a separate stratum as it were. If anywhere the question whether the grammatical structure of the present languages is of Sanscrit descent or of indigenous origin is to be decided, it must be by comparing it with the language of the aboriginal Arians of the long inaccessible Chilas, the Olympus to which the Hindoos still point. If anywhere farther links connecting the Arians of the East and the West are to be found, it must be among those same aboriginal Arians, still inhabiting, in an isolated position, the very seat and centre from which the race was produced ; the very kernel from which the great tree sprang ; and the little that we have learnt of the tongue of the unapproachable Kaffir hills, seems to suggest some almost startling affinities to the Latin. Viewing then the matter as at the same time so important and so easy, I have ventured to bring it to notice, and to submit for the consideration of the Council, whether something might not be done, in communication with the Punjab Government, towards putting upon paper the essence and structure of the Cashmeeree and Chilas languages. If I am supported, I would propose to give to the movement the sanction of the Society by the following resolution, of which I now give notice for the next meeting, and which I should be happy to modify in any way that may be deemed more effectual towards the object in view.

*Notice of Motion.*

That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and to

that end to solicit the aid of the Government of the Punjab and of his Highness the Maharajah of Cashmeree.

The following communications were announced :—

1. From Babu Gopee Nauth Sen, 'Abstract of hourly meteorological observations taken at Calcutta in September, 1865.'

2. From W. T. Blanford, Esq., 'Contributions to Indian Malacology, No. VI.'

3. From Capt. A. B. Melville, 'Notes on a Buddhist temple at Dob Khond in Gwalior,' with facsimiles of the inscriptions.

4. From R. Taylor, Esq., 'Notes on the physical changes at the Koen Pagoda near Madras.'

Mr. Taylor's letter was read as follows,—

"I have just returned from the Koen Pagodas, and advise you to arm any friend who may be intending a like trip, with any account of the place which may have appeared in the Society's Journal (two or three did, I think, some thirty years back), for the Gazetteer is worth little more than Murray.

"But I am not going to write archæology : the most important question about the place is, whether or not there have been great physical changes since the works there were first commenced. A writer in 1831, (I think), maintained that the sea line on this coast is perpetually advancing or receding, and that now at the point in question, the coast is encroaching on the sea. Accurately to determine this, would require minute observations carried on at all seasons for many years together ; I only offer for record my own observation.

"Three points in all such cases require careful note : the time of year, the late weather (in general terms,) and the state of the tide. The N. E. monsoon on this coast has, as its first result, a very marked decrease in the width of the beach, and I believe storms at other times of the year have, to some extent, the same effect. My visit then was paid in Christmas week, during the currency of the N. E. monsoon, after no markedly stormy weather, through the Surf-flag had been flying at Madras for some days in the previous week.—The tide should have risen on the days of my visit to the Pagodas 18in., and is believed to have risen only about 10 inches ; the cyclone destroyed the gauge ; so more cannot be said. The times of my visit to the sea pagoda and the coast were 7 A. M. of 27th Dec., and 4-30 P. M.

of 28th Dec.; the nearest flood times at Madras were about 3 A. M. on the 27th, and 4-30 P. M. on the 28th, so on the second occasion I must have been near the top of tide.

"A single group of rocks will give all the marks I can suggest. About 200 yards south of the pagoda, well within the beach line, is a small group offering many points for identification: this I believe to be the Gazetteer (the writer of 1831,) group 'half under water at high water, carved in grinning lions and tigers' heads.' (I am not sure of his exact words; this is certainly the meaning.) As the conditions of his visit are not noted, this information would be worth little, even if we knew that he had investigated these rocks as minutely as he could, and recorded his observations at once. But I am not to talk of him now. The group of which I speak (and of which I believe him to speak) is one of five rocks, two standing in shore of the other three: the southernmost of the seaward three is the largest. Its sea face is carved into an elephant's head supporting a shrine, a horse trotting up to the head from the south, some figures approaching from the north; on the back is another shrine hole, and some slight carvings of figures and a lion's head: the rock behind this is wrought into a sleeping lion. The middle one of the three seaward is a small untouched rock; the northernmost is a crag whose landward face is worked into a shrine hole within a border of grotesque masks: the fifth rock, just behind this, has no sign of human handicraft but its smoothed top. Now on my second visit the waves were just washing round them, as though they stood on the highest point such a tide could reach.

"Between these rocks and the pagoda is a pile of stones strewn on the beach as ready to the builder's hand, close to a rock, stepped as for the foundations of a small temple; over this rock every wave was dashing on my second visit in a sheet.

"The rise or fall of the coast must be *very* gradual, and probably no marked difference would be observed, at the same season, for the next 20 years: the publication of this note then would be of very little use, as it would certainly be forgotten or inaccessible as the old papers are: but every member should send to the Society such notes as he may be able to make, though the waste basket may better suit the majority than the Journal.

"*Madras, 5th Jany., 1866.*

(Sd.) "R. TAYLOR."

## LIBRARY.

The following are the additions made to the Library since the meeting held in September last.

*Presentations.*

*\*\*\* The names of Donors in Capitals.*

Political Mission to Bhootan, comprising the reports of the Hon'ble A. Eden, 1864.—THE GOVERNMENT OF BENGAL.

Ceylon Plants, by R. Thwaites, Esq.—THE AUTHOR.

Die Persischen und Orientalischen Handschriften der herzoglichen Bibliothek zu Gotha, by Dr. W. Bertsch, Vols. I and II.—THE AUTHOR.

On the Identity of Xandrames and Krananda, by E. Thomas, Esq.—THE ROYAL ASIATIC SOCIETY OF GREAT BRITAIN AND IRELAND.

Report of the damage sustained by the Royal Botanical Gardens in the late Cyclone of the 5th October, 1864.—DR. T. ANDERSON.

Notices on the life and writings of C. C. Lassen, by L. E. Bowing.—THE AUTHOR.

A brief Analytical Review of the brilliant Administration of Lord Mornington, afterwards Marquis of Wellesley.—MAJOR R. P. ANDERSON.

König Maximilian II. und die Wissenschaft.—THE ROYAL BAV. ACADEMY OF MUNICH.

Die Stellung Venedigs in der Weltgeschichte.—THE SAME.

Ueber den Begriff der bürgerlichen Gesellschaft.—THE SAME.

Catalogue of the Organic remains of the Echinodermata in the Museum of the Geological Survey of India.—THE GOVERNMENT OF BENGAL.

A treatise on attractions, Laplace's functions and the figure of the earth, by the Venerable J. H. Pratt.—THE AUTHOR.

A short practical grammar of the Thibetan Language, with special reference to the spoken dialects, by Rev. H. A. Jaeschke.—THE AUTHOR.

A letter 'On the utility of the study of the Sanscrit language,' to the Hon'ble J. B. Norton.—THE FIRST PRINCE OF TRAVANDRUM.

Iconologia, or Moral Emblems.—MAJOR J. G. GOWAN.

Address on the Language and Literature of Asia, by S. Feddon.—BÁBU RAMDÁSS SEN.

Smithsonian Contributions to Knowledge, Vol. XIV.—THE SMITHSONIAN INSTITUTION.



Results of the Meteorological Observations of the U. States, Vol. II, Part 1.—THE SAME.

Annual report of the Trustees of the Museum of Comparative Zoology.—THE DIRECTOR OF THE MUSEUM.

An account of the Base Observations made at the Kew Observatory, with the Pendulums to be used in the Indian Trigonometrical Survey, by B. Stewart.—COL. J. E. T. WALKER.

Proceedings of the Zoological Society of London, Illustrations for the years 1861, 1862, 1863 and 1864.—THE SOCIETY.

Cours d'Hindustani, by M. Garcin de Tassy.—THE AUTHOR.

Indische Alterthumskunde, by Ch. Lassen, Vol. I.—THE AUTHOR.

Five hundred questions on the Social condition of the Natives of India, by Rev. J. Long.—THE AUTHOR.

General Report on the Tipperah District, by J. F. Browne.—THE AUTHOR.

Meteorological Observations for the North Western Provinces, by Dr. M. Thomson.—THE AUTHOR.

The Punjab Chiefs, by L. H. Griffin, Esq.—THE AUTHOR.

Indische Studien, by Dr. A. Weber, Vol. IX.—THE AUTHOR.

Annals of Indian Administration, Vol. IX, Parts 1 to 4.—THE BENGAL GOVERNMENT.

Journal of the Statistical Society of London, Vol. XXVIII, Part 3.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Part I. with a supplementary number.—THE AGRI-HORTICULTURAL SOCIETY.

Jahrbuch der Kaiserlichen Königl. Geologischen Reichsanstalt, Vol. XIV, No. 4.—K. K. G. REICHSANSTALT.

Proceedings of the Royal Society of London, Vol. XIV, Nos. 74 to 78.—THE ROYAL SOCIETY OF LONDON.

Rahasya Sandarbha, Vol. II, Nos. 13 to 15, and 19 to 22.—THE CALCUTTA SCHOOL-BOOK SOCIETY.

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR MARCH, 1866.

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At a meeting of the Society held on the 7th instant,  
W. L. Heeley, Esq., Vice-President, in the chair,  
The Proceedings of the previous meeting were read and confirmed.  
The following presentations were announced—

1. From Moonshee Mahommed Hossein, Superintending Engineer's Office, Shergotty, a brick from the Temple at Buddha Gya : measuring  $15.6 \times 10.5 \times 3.2$  inches.

1. From Baboo Rájendralála Mitra, one *Felis Pardus*, L. One *Oriolus Melanocephalus*, L.

2. From Major Ford, one Gecko, two Lizards and one Snake, in spirit, from the Andamans.

3. From Baboo Rajendro Mullick, two *Bos Grunniens*, L. (Yak) ; and one *Dama vulgaris*, Gesner (Fallow Deer).

4. From H. F. Blanford, Esq., two *Tudora ferruginea*, Europe ; two *Melanopsis Esperii*, Transylvania ; two *Melanopsis thermalis*, Europe ; two *Melanopsis acicularis*, Europe ; six *Nanina ligulata*, Madras ; two *Cyclostoma costulatum*, Europe ; two *Cyclotus corrugatus*, Jamaica ; one *Rhiostoma Housei*, Siam ; one *Philopotamis decussata*, Ceylon ; six *Pomatias maculatum*, Europe ; two *Olypeaster*, Pondicherry.

5. From Dr. J. Anderson, *Macacus radiatus* ; *Oriolus melanocephalus* ; *Pratincola caprata* ; *Accipiter nisus* ; *Euplocomus nycthemerus* ; *Eos ornata* ; *Lorius dimicella* ; *Sturnus contra* ; *Dicrurus caerulescens* ; *Dicrurus macrocerous* ; *Dicrurus longicaudatus* ; *Budytes viridis* ; *Mulacocercus Bengalensis* ; *Cuculus varius* ; *Fringilla Canaria* ; *Melopsittacus undulatus* ; *Elolius grandis* ; *Eclectus Po-*



*lychlos*; *Pycnonotus Jocosus*; *Pycnonotus atricapillus*; *Calliope Kamtschatkensis*.

The Hon'ble G. Campbell, in accordance with the notice given at the previous meeting, then moved—

‘That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and to that end to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere.’

In introducing the motion, Mr. Campbell made the following remarks :—

I rise to submit the motion of which I have given notice for to-day, viz. “that the Council be requested to consider the means of obtaining a more exact knowledge of the languages of Cashmere and Chilas, and to solicit the aid of the Government of the Punjab and of His Highness the Maharajah of Cashmere to that end. Considering the subject to be of some importance, and desiring to place it fully before the Members of the Society previous to the submission of my motion, I ventured at the last meeting to give my views in some detail, and my remarks having been embodied in the Proceedings, I need not now repeat them. In brief, I pointed out that two Arian languages of the very highest interest, and spoken in countries now easily accessible, are still unexplored; the learned and civilised language of the polished and ingenious Cashmerees; and the language of Chilas or Kylas, the traditionary source of the earliest Arian migrations and myths. The learned President, Mr. Bayley, in conversation, threw some doubt on the claim of Chilas to be the true Kylas. He mentions that in the Almorah hills, the Hindoos point to the high country north of that place as the Kylas. It may be that the word will prove to be one of broad signification as applied to these high lands, but the common understanding of the Punjab certainly seems to be, that the words Chilas and Kylas are identical, and I venture to think that this North-Western Kylas, still peopled by Arians, in a most ancient Arian country, is more likely to be the true Kylas, than a part of Thibet which, so far as we know, has never been peopled by Arians, but is the patrimony of races of the purest Thibetan stock. I suspect that the more easterly Hindoos merely point to unknown heights beyond the eternal snows. The modern Chilas is the more accessible country north-west

of Cashmere, and occupying the portion of the Caucasus between Cashmere on one hand and Chitral and Kaffiristan on the other, the country of which the great mountain of Nanga Parbat or Diarmul may be taken as the centre and distinguishing feature.

I noticed that *the* very little that is known of the language of the nearly adjoining Kaffiristan seemed to present some almost startling affinities to the Latin, and perhaps I may detain the meeting for one moment to give one or two examples of what I mean. I quote from the Rev. Mr. Prump's paper on the Kaffir language. First, take the personal pronouns :

Ei. Tu. and Se or Seg—

These seem very like Ego, Tu, and Se, while in the possessive form—

Ima, Tua, Seg—

are very like, Mea, Tua, Sua.

But the resemblance to which I would most apply the term startling is in the verb to be—

Compare	Ei	Sum	I am	}	with	Sum
	Tu	Sis	Thou art			Es
	Sega	Se	He is			Est
	Ima	Simis	We are			Sumus
	We	Sik	You are			Estis
	Sega	Sin	They are			Sunt.

The slight contents of the paper do not enable us to carry the comparison much farther.

We know nothing of the Chilas language beyond the fact which I take upon myself to assert, as the result of my observation, that it is clearly an Arian tongue. Possibly it may turn out that, if the language of the Hindoo Cashmeerees is the eldest daughter of the Sanscrit, that of the Pre-Hindoo Chilasees is the mother of that language;—it may even be that it is also the mother or the elder sister of the Latin.

The neglect of the much longer known Cashmeeree, I believe to be in great part owing to a curious accident. The old Serampore Missionaries were giants in their day; they translated the Bible, or at least the New Testament, into almost every known and unknown tongue, the Cashmeeree included, and made Grammars of most of them. Of the Cashmeeree, they did not make a Grammar, but unfortunately it somehow got into print, that "Dr. Carey had published a

Cashmeeree Grammar under the title of a Grammar of the Punjabee language:" that error was circulated, the Punjabee was mistaken for Cashmeeree, and Cashmeeree is put down in all the lists as merely "A dialect of the Hindee"—a description which applies to Punjabee, but in no degree whatever to Cashmeeree.

Punjabee, though called a language, is really merely a dialect—at most it differs from Hindee as much as Lowland Scotch does from English. The pronunciation is materially different; there are some changes of letters, *e. g.*, a pure Punjabee will say instead of '*Uska*,' 'of him,' '*Usda*,' and so on; but there is no difference of structure; very many words also seem strange to a new-comer, but most of these turn out to be pure Sanscrit—for instance, instead of '*bahut acha*,' 'very good,' or '*acha bat*' a Punjabee says "*Sath Bajan*." Whatever you say in the Punjab, the universal answer seems to be "*Sath Bajan*." These are purely Sanscrit words, '*sath*' being 'good,' and '*bajan*' or '*vachan*' a word.

The Cashmeeree, though very Sanskrit, is in its grammar and structure, and many of its vocables, a totally different language from the Hindee or Punjabee; more different I may say than French from English, perhaps almost as different as Greek from English; and it is spoken by a wholly and essentially different people. It is evidently a much more complicated language than the Hindee. For instance, instead of the universal '*ka*,' '*ke*,' '*ko*,' there seem to be a great variety of forms of declension of the noun by inflectional affixes and changes, like the Latin and Greek, but more varied. The verbs seem also to have regular inflectional conjugations. And in none of these do I see any near resemblance to the Hindee, beyond a community of root. Many of the words are also exceedingly peculiar, and the Pundits are well aware there is a large infusion of vocables from unknown sources. In every way there is a great field for critical study. I brought down with me a good many words and phrases, but they are too imperfect to show much. I have obtained from Serampore a copy of Dr. Carey's Punjabee New Testament, but no one can now read it. That very learned and distinguished member of this Society, Babu Rajendra Lala Mitra, whose absence, on account of ill-health, I am grieved to notice, was kind enough to promise, as I before mentioned, to look over the papers on the Cashmeerec hitherto published, and to give me a note on the

subject which I now hold in my hand, and which, with the permission of the meeting, I will read. The result, I think, is fully to bear out my assertion of the extreme meagreness of our knowledge on the subject, and at the same time, of the extreme interest of the language, and the wide field for inquiry offered by it. The learned Babu's note also shows the difficulty of the task, the failure of summer tourists to do what is desired, and the necessity of some more effectual action. The fact is, that although most Indian languages have had the attention of most zealous and knowledge-loving men, who have collected many words and much information, this was for the most part done at a time, when language had not yet been elevated into a science and found to be one of the principal keys for unlocking the great problems of history. Now-a-days we require information in a somewhat different form, and of a more precise and exact character than was before thought of. This we cannot obtain in a mere casual way : some systematic effort is required. If the thing be once set in motion, I believe that ample means are available. I am not without hope that the distinguished native gentleman, whose note I am about to read, may himself visit Cashmere before long. In the Punjab there are several most learned and excellent members of this Society, and equally well qualified servants of Government. Dr. Leitner, the head of several new movements, is a host in himself. It is only required to make a beginning, and if the influence of this Society and of the local Government be used to effect so much, the rest will follow. Of the importance of the end proposed, I do not think that there can be diversity of opinion ; the only question is as to the particular means, and those I hope may be devised.

Mr. Campbell then read the following note by Babu Rájendrā Lala Mitra :—

“ Nearly half a century ago the learned scholar and indefatigable translator, Dr. Carcy, drew the attention of European scholars to a living Sanskrit dialect till then unknown, the Kashmiri, by the publication of a translation of the Bible in that tongue. So little was it then understood, that a grammar of the Punjabi language, published soon after, was mistaken for it, and it was not till the year 1839 that any attempt was made to reduce its grammar to writing. Since then, two grammatical treatises have been published in the *Journal of the Asiatic Society*

on the vernacular language of the valley of Kashmir. The first is by Mr. M. P. Edgeworth of the Bengal Civil Service, who describes it as "a grammar and vocabulary of the Kashmiri Language," and states that he drew it up from the dialect of the shawl-weavers of Ludhiana, through the assistance of Meer Saif-u-deen, a respectable Synd of that place. In extent it is limited to 20 pages, of which the bulk is made up of straggling lists of words. The second is somewhat larger, and occupies about 40 pages of the Journal. It was compiled by Major R. Leech, C. B., and was intended to be only a "grammar of the Kashmiri language," but in reality it was made up of a number of vocabularies arranged under different grammatical headings. Like the first, it was drawn from the shawl-weavers of Ludhiana through the intervention of a Musulman. Neither of these works is of a character to afford safe data for any useful purpose. They are avowedly founded upon the language of a small community of artisans long expatriated from their native country, and not drawn directly from the Hindus of whose language they profess to treat.

The rules they contain are meagre in the extreme; the work of Major Leech illustrates the principles of grammar by examples, but gives no rule at all; altogether they are as imperfect as grammars compiled from examples drawn through the medium of interpreters must necessarily be. Nor were their authors unaware of this, for Major Leech avowed, in his preface, that his essay "does not deserve the name of a grammar," and Mr. Edgeworth admitted his to be "necessarily very imperfect."

On the subject of orthography, Mr. Edgeworth is extremely brief; he does not give more than a dozen lines, and that only to indicate in what respects the alphabet of the Kashmiri differs from the Sanskrit. Major Leech, on the contrary, is very diffuse, and devotes no less than one-third of his essay to it. But for any practical purpose, it is as useless as the first; being made up of examples of diphthongs, triphthongs and other combinations of vowels and consonants peculiar to Kashmiri.

It is evident that the alphabet of the Kashmiri is of Sanskrit origin, and the character used in writing is a modified Punjabi or Gurmukhi, a form of the Devanagari, but there appears a most remarkable difference in their nomenclature.

The early Brahmans, with great scientific precision, named their letters after their pure literal sounds, added for the sake of pronunciation to the fundamental uncoloured vowel, instead of mixing them with different vowels and consonants at random. The superiority of this system of nomenclature is so great, that it is difficult to suppose that it would be rejected in a hurry—and yet we find the shawl-weavers converting the simple Sanskrit *a*, *á*, *i*, *í*, *u* &c. into *á dou a*, *aelon á*, *yoyou ye*, *is-harauce*, *upalba wos*, &c. It would be an interesting fact to know if this be the result of that tendency in the uneducated masses to convert everything to be learned into a metrical sing-song, to assist the memory? or a deliberate attempt of the Brahmans of Kashmir to imitate the *alpha* and *beta* of the Semites?

The list of nouns given by Major Leech clearly points, like the alphabet, to a Sanskrit origin. Most of the text words, such as those expressive of near relationship or domestic animals, are purely Sanskrit; but there are some which appear most puzzling. Thus the most important word of relationship, that indicative of a father, instead of being a modification of *pitrí* or *pitá* is *maül*, which bears no analogy to any Sanskrit word that I know of. The name for a child, *nichir*, is equally strange. The word daughter, *dúhitá*, the young milker of the family of the early nomades, has preserved its form in all the Aryan tongues, European or Indian, which have yet been examined; but in the Kashmiri it appears in the utterly unrecognizable form of *Kud*. There are others equally inexplicable, and the question hence arises, are these the genuine Kashmiri words of the Brahmans of the valley, or pet or slang modifications of the illiterate vulgar, as the mass of shawl-weavers undoubtedly are? Nothing but a careful examination of the language of books and of the higher classes can decide this; and to do it, the language should be studied in its native country, and not in an outlying colony. In the Bengali, the ordinary words for son and daughter are *chhele* and *meye*, which at once indicate the admixture of the early Indian Aryan with the aborigines of the country. Are the non-Sanskrit Kashmiri words for father, son, and daughter due to any such miscegenation? or are they the result of casual importations? A correct reply to this question would be of great importance to the ethnological inquirer.

Nor are these vocables alone peculiar in the Kashmiri : its system of inflections and conjugations, as far as may be traced in the essays under notice, are equally foreign to the Sanskrit. The nominative appears without a case mark, as it does in all the other Indian vernaculars, but the genitive takes the particle *sund* which has no analogy with any Sanskrit inflection. It changes into *hand*, *san*, *han*, *san*, *han*, *uk*, *ik*, *ich*, &c. under different circumstances, and all of them, except the last three, are entirely foreign. It should be observed, however, that Mr. Edgeworth devotes only a page and a half, and Major Leech only a page to declensions, and it would be unsafe to draw any conclusion from them as to how far the cases given by them are indicated by inflectional particles, and how far they are made up by altering the words from one part of speech to another. The neuter genitive in *uk* and *ik* looks very much as if it were an adjective and not a substantive.

Major Leech is averse to what he calls "labouriously manufactured tenses of verbs." He thinks "much labour and time would be saved and every ordinary purpose answered, if, in case of minor dialects, a vocabulary only of words and a collection of sentences actually heard spoken, were made in the Roman character." It is not to be expected, therefore, that he would be very elaborate in the paradigms of his verbs. They hereby occupy three and a half pages. But Mr. Edgeworth gives a pretty long list of verbs, and from it, it is evident, that most of the roots are derived from the Sanskrit, and that the changes they have undergone are such as are inevitable to all languages in course of time, the decay of primitive forms and sounds, and their replacement by easier forms and combinations.

The most important test word in verbs, is the verb "to be," Sanskrit *as*. It occurs with but slight variations in all Aryan languages, and is not wanting in the Kashmiri. In the form of *as*, *ach*, and *chi*, the Bengali *áchi*, it is met with very largely, and by itself would be a strong proof of the Sanskrit origin of the Kashmiri, but in this, as in declensions, further enquiry is necessary to prove in detail the analogy it bears to the Sanskrit in all its different moods and tenses.

The pronouns are all of obvious Sanskrit origin, and so are most of the leading adjectives and words indicative of number; but they

call for no further remark than that the information available in the subject is as imperfect as in the case of nouns and verbs.

I may say the same of adverbs, prepositions and conjunctions. For the purpose of analysing words, a thorough knowledge of prepositions is of the utmost importance; without it, to attempt the task is to attempt an impossibility; but of prepositions the two essays give next to nothing.

But I need not any further multiply examples. It is the furthest from my wish to find fault with Mr. Edgeworth and Major Leech. They were pioneers in an untrodden field, and as such, they deserve our thanks for what they have done, and not our reprobation for what they could not do; and in noticing their papers, my only wish is to point out what remains to be done, and the rich field that lies open to the scholar who would devote a season in the "happy valley" to the philology of that place.

Nearly a quarter of a century has elapsed, since the publication of the papers under notice, and Kashmir has been visited year after year by shoals of intelligent summer tourists, but nothing has been done to throw any new light on the language of that country, and it remains to this day as ill known to us as the trans-himalayan Aryan dialects of the Hindu Kush, or mount Kailasa. The paper of the Rev. E. Trump on the so-called Kafir language—an Aryan vernacular of the Indian Caucasus, is even more imperfect than those of Mr. Edgeworth and Major. Leech, and the vernacular of Kailása is all but unknown to us, and yet great interest is attached to the history of those languages. They stand as landmarks of the spread of the Aryan races from the plateaux of Central Asia, and as such, have a peculiar interest for the antiquarian."

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Mr. Riddell thought that it was incumbent on the Society, in making such a proposition, to indicate the course which they consider should be pursued, to attain the the object in view.

Mr. Campbell said that he could hardly take upon himself to indicate the exact method to be followed—*that*, he thought, must be left to the Council as the executive of the Society. He only desired to suggest the subject to the Council, leaving it to them to follow it out by such methods as they might deem most proper. With reference to further observations



on the expediency of rendering the proposition more definite, Mr. Campbell said that if he were to suggest any practical course, it might perhaps be something like this ; that the Council should try to find some qualified member of the Society willing to undertake an enquiry in Cashmere and Chilas; that, if the Punjab Government be willing to assist, some competent officer—a member of the Educational Department for instance—might be found, whose health required a change, and who, instead of remaining in enforced idleness at a hill station, might be deputed for a little time to Cashmere—that the Maharajah might be induced to associate with this gentleman a learned and progressive Pundit; and that such a trio might, in a few months, do all that we could wish. But, as he had said, all this must be left to the discretion of the Council, to whom he could not and would not for a moment pretend to dictate.

Mr. Atkinson suggested, as an improvement, that after the word Chilas, the words ‘and if thought advisable’ be inserted in the motion.

Mr. Campbell was quite prepared to make the alteration suggested, and moved the proposition of which he had given notice in the following form.

“That the Council be requested to consider the means of obtaining a better knowledge of the languages of Cashmere and Chilas, and, if thought advisable, to solicit the aid of the Government of the Punjab, and of His Highness the Maharajah of Cashmere to that end.”

Dr. Partridge seconded the proposition. The Chairman, in putting the motion, remarked that the importance of a thorough knowledge of a new and living Arian language could not be overrated. Sufficient attention had never been paid in India to the spoken languages, and while many scholars were occupied in the study of the literary languages of India, the vast mine of wealth that lay around us in the numerous provincial languages and dialects had been neglected. He felt sure that the Society would support Mr. Campbell’s resolution.

The resolution was then put and carried unanimously.

Mr. Riddell desired to express his dissent from the remark of the Chairman, that the provincial dialects had been neglected. Numerous vocabularies, &c. had been prepared, and would be found in the Society’s journals and elsewhere.

Mr. Heeley explained that what he meant to express was, that those

languages and dialects had never been made the objects of scientific study. Undoubtedly steps had been taken towards the collection of materials, but the analysis which alone could be productive of useful results, had never been applied.

Mr. Campbell then addressed the meeting, as follows :—

“It may have come to the knowledge of some members of the Society, that the Council has lately taken action with the view of obtaining in connection with industrial and other exhibitions, the collection and classification of various races of man. When I suggested the collection of the crania of the aboriginal and other races of India, the then President, Mr. Grote, remarked that the individuals more immediately interested might have some not unnatural prejudice against parting with their crania. I felt that, even when the interests of science were concerned, so reasonable a prejudice must be respected, and could only hope that they would be good enough to let the Society have their skulls, when they should no longer have use for them. At the last meeting, we had ocular proof that endeavours to this end had not been wholly unsuccessful, and I understand that on a late visit to the Andamans, Dr. Smith found a mourning widow of very aboriginal persuasion, wearing her husband’s skull as a sort of locket, and who, with great anxiety, concluded a bargain for the sale of it for the moderate sum of 1 rupee. Another and more immediate solution of the difficulty has, however, been suggested, viz. that the possessors of interesting skulls might be not unwilling to let us examine them, while still on their shoulders, and on the proposition of Dr. Fayrer the Council have taken up the subject, and hope to bring about arrangements of the kind on a large scale. I believe that Dr. Fayrer is entirely right : that we are greatly indebted to him for bringing the matter before the Council ; and that in many ways the study of the human features and characteristics in living specimens will be above all things interesting and advantageous. I have long thought so, and I was much struck by seeing men of most interesting and curious races carrying things down to the Punjab Exhibition two or three years ago ; the men, who were *not* to be exhibited, seemed to me much more curious than the things they were taking to exhibit, and at the time I ventured to suggest that the men also might be exhibited, but it was then too late. I will not now detain the meeting by any details. I will only say that I understand

the project to be, to try, in the first instance, to obtain a sort of exhibition or congress of the local races found in and near Bengal and other provinces, on the occasion of Local Industrial Exhibitions; and the eventual hope is, that the way being thus prepared, we may at some not very distant day have in Calcutta a great ethnological congress of all the races of India in its widest sense; in fact of all Southern Asia and the Archipelago, a congress of such a character that many of the Savants and accomplished men of Europe may not improbably be induced to take a part in it. I think it most desirable that the proposition should be made known to the members of the Society at large, and to the public, with whose support I trust that it will be worked out: also that the Council should be supported in the matter by the vote of a general meeting. I hope therefore, that the Council will think it proper to read the correspondence at the next meeting, that the meeting will sanction what has been done, and that the subject will be found to be one of great general interest. With this object, I beg to give notice of the following motions at the next meeting on the first Wednesday of April."

"1. That the correspondence and proceedings of the Council regarding the proposed ethnological gathering be read.

"2. That the Society approve of the action of the Council in the matter.

"3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope, that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general ethnological congress."

Mr Waldie remarked on the specimen of a Candle and Ear-rings from Burmah, presented to the Society at its meeting in January by S. Avdall, Esq.

"I have examined the samples of a Burmese candle and ear ring which was presented to the Society by the Rev. Mr. Long at the January meeting, and find that they are, as I then suggested, composed of Paraffin or the solid hydrocarbon which is found in the Petroleum of Rangoon and other places. These petroleums agree in their general characters with the oils obtained by the slow distillation of coal and bituminous shales, in contradistinction to the tarry products obtained by

the quick distillation of coal for illuminating gas. They are found in many quarters of the globe,—in Burmah, on the shores of the Caspian, in North America, and in numerous other places, and consist of a mixture of many oily compounds varying in degrees of fluidity and volatility as also in their relation to chemical agents. Certain of them can be removed by the action of strong acids and alkalies, which form coagula in solutions: the matter remaining is composed of a mixture of oily substances, compounds of Carbon and Hydrogen, all of pretty nearly the same composition, but of different degrees of density and volatility. When distilled, the lighter and more volatile portions come over first; the denser and less volatile last. If the latter portions be exposed to cold, a solid substance crystallizes which can be freed from the liquid oils by pressure—cold and warm—and purified by chemical processes. This solid substance is the Paraffin.

“When pure, Paraffin is a white, translucent, crystalline, brittle substance; so friable indeed, that it can be powdered even in this climate. In these respects, it differs considerably from wax, of which these ear rings and candle were at first supposed to be composed; as also by fusing at a somewhat lower temperature. The most striking point of difference is the absence of plasticity in Paraffin, a property which renders bees-wax so valuable.

“In a scientific point of view, the subject of greatest interest, connected with these substances, is their origin. Application was made to Mr. Avdall, who presented them, through Mr. Long, but no information could be obtained on the point in question. But, as I stated at the time, I had examined specimens of a similar material which had been found in the surface of the ground in some parts of Burmah; and there can be little doubt that the Paraffin had been separated from the petroleum by the slow operation of heat, atmospheric oxygen and water, and possibly some constituents of the soil, affording another instance amongst a host of others, in which the changes which are effected by the Chemist in the laboratory or in the factory by powerful agents, in hours or days, are brought about by nature by the operation of the feeblest chemical agencies extended over years or centuries.”

Letters were read—

1. From Babu Rakhai Doss Halder, Deputy Collector, Manbhoon, Purulia, through Col. Dalton, two letters on some old temples near the Barakar river.

The following is an abstract.

The temples (four in number) are situated on a rock close by the spot where the Grand Trunk Road crosses the Barakar river. They are surrounded by ruins which indicate that the site was that of a large monastery. The courts were at one time all paved with stone, and the temples were highly ornamented, and contained stone figures of great beauty. On the right hand side of the entrance of the most modern looking of the temples, there are two inscriptions. One of them, in the old Bengali character, dated Wednesday, the 8th of the wane in the month of Phālguna, Saka year 1383=A. D. 1459, records the dedication of a number of idols by one Haripriya, the favourite wife of a king.

Although the inscription gives no clue to the sect of the dedicator, her name (the beloved of Hari), the subject of the dedication (a number of gods), and the allusion to Haris Chandra and future rewards, leave no doubt of its being a Hindu record.

The following are its transcript and translation.

*Transcript.*

শাকে নেত্রবসুত্রিচন্দ্রহণিতে পুণ্যে বুধাহে তিথা-  
বক্ষ্যমাণ রুচিরং প্রতিষ্ঠিতবতী পক্ষে সিতে ফাল্গুণে ।  
ঐশং দেবকুলং যথাবিধি হরিশ্চন্দ্রশ্চ ভূরিপ্রিয়ো  
ভূশক্রস্য হরিপ্রিয়া প্রিয়তমা উর্দ্ধং ফলপ্রাপ্তরে ॥

*Translation.*

On a fortunate Wednesday, the 8th of the wane, in the month of Phālguna, in the Saka year 1383, Haripriya, the favourite of the most beautiful (*Bhurisri*) lord of the earth (king, *Bhusakra*) with a view to obtain rewards in a future world, handsomely consecrated a number of divine images even as Harischandra did (of yore).

2.—From Col. R. C. Tytler, describing a specimen of *Vultur monachus*.

*Umballa, 3rd March, 1866.*

"MY DEAR GROTE,—I have this moment, or rather an hour ago, shot a splendid specimen of that rare and noble bird the *Vultur monachus*. Although the bird figures in museums, little or nothing seems to be known of it, further than what dried skins can give: I have been watching those I have seen very closely, so I send you an account for publication. For there can be no doubt but that many will be interested in the little I have to say.

"I have always found this bird a very rare species : the first I ever saw wild, were two in the Punjab, in November, 1842. They were sitting in the centre of a large field, and it was quite impossible to approach them : I again fell in with another pair at Oorai near Cawnpore in December, 1855 : they were feeding on the carcass of a dead bullock, along with two or three *Gyps Fulvus*, and numbers of *Gyps Bengalensis*, *G. Indicus* and *Atagyps Calvus* ; the smaller vultures shewed no signs of alarm at the huge appearance of the *Monachus* ; but I remarked that the latter were in the centre of the group of vultures, and had evidently the masterly choice of position on the carcass. I had only No. 8 shot in my gun, and the nearest I could approach them was at a distance of about 80 or 90 yards ; so that although I fired, it proved perfectly useless. The birds scarcely seemed to feel it, for they flew lazily away, and gradually ascended to a tremendous height, describing circles in their ascent, till they were almost out of sight, and I saw nothing more of them, or of any more till in December, 1865, at Umballa, when I was driving to the City from Cantonments, and my son Frank, who was sitting beside me, drew my attention to two large vultures, surrounded by smaller vultures, on the carcass of a horse. We immediately drove up to the place, and I again saw this rare bird. There were three of them ; and they allowed us to approach with the Dog cart, as I had no gun with me, to within 80 yards, and then flew lazily away, and describing circles, ascended to an incredible height. A few days afterwards, I saw three more flying in company with other vultures, but far too high for a shot. This morning, the 3rd March, 1866, I had just returned from shooting, when I found a note waiting for me from Dr. Scott, medical store-keeper, saying he had just seen two of these birds, feeding, with other vultures, on the carcass of a horse ; and described the place so well, that although I was very tired, I at once started for the spot, and then I had the satisfaction of again seeing three of these noble vultures, not near the carcass of the horse, but at some distance from it, seated on a sand hillock along with other vultures. I approached as cautiously as I could : the position was a most exposed one, and I had a good opportunity for observing these monsters. At first they were about ten yards apart from each other, but when my presence slightly alarmed them, the largest walked towards the other, and both then raised themselves to their full height ;

and certainly they possessed a most striking appearance. They now put their bills together, which they clattered for a short time, apparently as if inclined to bite each other. I now approached within 80 yards, and as my gun was loaded with large shot, I fired at the largest. He was struck beyond all doubt, but both flew away in a most lazy unconcerned manner, and after flying about 100 yards, settled on the sandy plain, near a few sand hillocks. I again loaded, and cautiously approached the spot, concealing myself behind the hillocks till within 80 yards; when I again selected the largest, and fired both barrels into it, but apparently without any more effect than the last shot, and both flew away in a most unconcerned manner. But when at a distance of about 500 yards, one suddenly fell down dead, and I succeeded in getting this truly noble bird and examining a fresh killed specimen. It weighs 17 lbs.—extent of wings from tip to tip 8 feet 2 inches—length, including bill and tail, 3 feet 7 inches—wing 2 feet 9 inches—head and bill  $6\frac{3}{4}$  inches—tarsus  $5\frac{1}{2}$  inches—middle toe, including claw, 6 inches—middle claw  $1\frac{1}{2}$  inches: the tarsus is clothed in front with feathers to within  $1\frac{1}{2}$  inches of claws. Claws black—feet and nude skin about the head and neck: livid white, cere livid white—upper mandible dark brown—under lighter brown—head covered with downy feathers in front and top to beyond the eyes dark brown—back of the head covered with light brown downy feathers. Chin and upper part of throat covered with dark brown downy feathers, as well as the cheeks—the entire neck, eyebrows and region of ears, devoid of feathers, and the skin of a livid white; length of tail 1 foot 7 inches; round the body and wings 3 feet, general colour very dark brown.

“When flying, the *Vultur monachus* can easily be distinguished from other vultures, as no white is visible, and the tail looks very rounded. *Gyps Bengalensis* shews white in the adult bird under the wing, and the young bird shews traces of white. In *Atagyps Calvus* two white patches are visible near the breast: the other vultures are light brown, and their face is easily distinguished.”

The Council recommended, on the report of the Philological Committee, to publish the *Yog Aphorisms of Patanjali*, in the Sanscrit series of the *Bibliotheca Indica*.

The Council recommended that the Rev. J. Long be elected a member of the Philological Committee.

The following gentlemen duly proposed at the last meeting were balloted for, and elected as ordinary members.

W. Irvine, Esq.

Bábu Kadar Náth Mookerjee.

Dr. J. F. Wise.

A. P. Macdonell, Esq.

And as Corresponding Members.

The Rev. M. A. Sherring.

Professor E. von Schlagintweit.

The following gentlemen were named for ballot for the next meeting as ordinary members.

H. C. Broderick, Esq., M. D., Surgeon, 1st Regiment, Central India Horse, Augur.

Proposed by Mr. H. B. Medlicott, seconded by Mr. H. F. Blanford, — Henry, Esq., Belgian Consul.

Proposed by Mr. W. L. Heeley, seconded by Mr. H. F. Blanford.

The receipt of the following communications was announced.

1. From Baboo Gopee Nath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta in October and November, 1865.

2. From the Government of India (Public Works Department,) the Archæological survey report of the Government of India, for 1864-65.

3. From E. B. Harris, Esq. C. S., through T Oldham, Esq.

A list of things discovered in the new excavations at Sultangunge, up to November 1865; with two maps.

4. From E. Thomas, Esq. The Initial Coinage of Bengal.

5. From Dr. A. Sprenger, Remarks on Barbir de Maynard's edition of Ibn Khordadhe, and on the Land tax of the Empire of the Khalyis.

6. From C. Horne, Esq. Notes on the three villages (Anjimmi, Kareengunge and Takoora), on the cross road leading to Etah; with rough sketches.





PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR APRIL, 1866.

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The monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday, the 4th instant.

Bábú Rájendra Lála Mitra, senior Member, in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced :—

1. From H. F. Blanford, Esq., a copy of the "Pre-historic man" a lecture delivered by him at the Dalhousie Institute, Calcutta.
2. From J. Murdoch, Esq., a copy of a classified Catalogue of Tamil printed books, compiled by him.
3. From M. Lloyd, Esq., Tounghoo, a packet of specimens of indigenous tea, supposed to be the same as the Chinese plant.

The following letter and enclosure which accompanied the donation were read.

*To the Secretary Asiatic Society, Calcutta.*

DEAR SIR,—I have the pleasure to inform you that I have despatched to your address a packet containing leaves of, I think, the China Tea plant.

During a trip over the Karen hills, east of and 30 miles from Tounghoo, I encamped in a valley called in Burmese "Lekpet Aing" or the "tea lake." On the hills about this valley I found the tea on an elevation of from 3000 to 4000 feet above sea level. I forward an extract from my official journal.

You will observe from my journal, I note that the leaf answers the description given of the tea leaf. The plantation, (it appears the trees were originally planted, see my journal,) has now become a wilderness, the bushes have become trees, some 30 to 40 feet high.

The Karens cut down hundreds of these trees annually to make room for their rice clearings.

The spot is distant from Tounghoo 34 miles. A good supply of water all the year round. Small quantities of ice can be collected in December and January : road easy for elephants and bullocks.

If the specimens forwarded are not sufficient to enable an opinion to be formed as to the value of the plant, kindly let me know how a fresh lot should be prepared before despatch.

*March 3rd, 1866.*

Yours faithfully,

M. LLOYD,

*Deputy Commissioner, Tounghoo.*

Extract from the Deputy Commissioner of Tounghoo's Journal, on his visit to the Gyeikki country.

"After crossing the Dha Thoay Kyouk mountain, the road is almost a continued descent ; here and there a small but abrupt hill has to be passed over. After travelling between 5 and 6 miles, the Tha Kho Creek is crossed, a small stream which runs into the Toukyagat, whose course is east of the "Dha Thoay Kyouk" mountain. The road then passed into a valley known as Lek Pet Aing. This valley runs almost north and south, two miles in length, with an average breadth of 250 yards ; the valley is surrounded by a small range of hills : whichever way the eye is turned, on these hills the tea plant is to be found in abundance. A small colony of Shans settled here last year, with a view to prepare this tea for the Tounghoo markets : the colony consisted of about 50 souls, but 30 died of fever during the rains ; which drove those who were spared away. The Shans pronounced the tea plant a little inferior to the same plant found in abundance in the Shan States, but stated that, with proper cultivation, it could be greatly improved.

"The hills all about are covered with tea trees. I saw some between 30 and 40 feet high. The leaves of this tree are alternate, and have ; what I have read of as peculiar to the leaf, viz. a leathery feeling and a marking with transparent spots. On making enquiries as to the origin of the trees, I am informed that between 200 and 300 years ago a Shan Tsawbwa, by name "Tonug ba loo," built a large town near Lekpet-Aing," and planted tea trees, but the Tsawbwa was not allowed

to remain long, as the Burmese attacked his people, and broke up the settlement."

4. From A. H. Blechynden, Esq., Secretary Agri-Horticultural Society, three packets of wood obtained in digging a well at Ballygunge.

Mr. Blanford observed that the specimens on the table were evidently similar in character to those which he had described in a note on a tank-section at Sealdah, published in the thirty-third volume of the Society's Journal. These had been pronounced by Dr. T. Anderson to be specimens of *Sundri*, and had been obtained at depths of from 20 to 30 feet, from stumps of trees with the roots attached *in situ*. In the paper referred to, he had endeavoured to show that their occurrence at this and similar depths appeared to obtain over a very large part of the Gangetic delta; and that it could only be explained by assuming that a general subsidence of the delta to a depth of 18 or 20 feet had taken place since the trees grew on a former land surface.

Dr. J. Anderson reported that the following specimens were added to the Museum during the month of March, 1866.

*Presentations.*

From Dr. J. Anderson, one *Vipera Russellii*, one *Cobra*, one *Sus Andamanensis*, one *Gyps Bengalensis*, one *Oriolus Melanocephalus*, one *Pteropus Edwardsii*, one *Lutra Nair*.

Through Dr. J. Anderson, a collection of snakes, lizards and crustacea from the Andaman Islands.

From W. S. Atkinson, Esq. 1 Nest of *Nectarinia Nipalensis* and of a *Nectarinia* sp.?

From J. A. Cockburn, Esq. 1 *Python molurus*.

From J. Obbard, Esq. 3 Marine boring Annelids taken from the timbers of a ship.

The Hon'ble Mr. Campbell moved, in accordance with the notice given at the last meeting:

"That the correspondence and proceedings of the Council, regarding the proposed ethnological gathering, be read." The motion having been put and carried, the Secretary read the following correspondence.

From J. FAYRER, Esq., M. D.,

*Professor of Surgery in the Medical College.*

To J. ANDERSON, Esq., M. D.,

*Natural History Secretary, Asiatic Society, Bengal.*

"MY DEAR SIR,—I shall feel obliged by your submitting the follow-

ing suggestion to the Council of the Asiatic Society for consideration, and I hope, adoption, and elaboration.

"The project may, at first, seem rather a startling one, but, on reflection, I believe it will be admitted that, were it carried out in a liberal spirit, much benefit might result to Science, and light be thrown on many obscure points in the natural history and affinities of the various sections of the human race.

"A circular has recently been issued by the Society, requesting all who are in a position to do so, to contribute Crania, with a view to the illustration of the Ethnology of India, and indeed of the world. But, valuable as such contributions might be, I think they would fall short of the advantages to be derived by anthropological science from a study of the races themselves in life.

"I would propose, therefore, that the aid of Government be sought, in conjunction with the Asiatic Society, in bringing together in one great ethnological exhibition, typical examples of the races of the old world, and that they should be made the subject of scientific study when so collected.

"Calcutta is peculiarly situated for the easy and rapid accomplishment of this project, and, with a little aid and support from Government and its officers, there can be no doubt that it might, after due notice, be easily carried out.

"The vast variety of tribes of the human race that might thus be assembled, would offer an opportunity of studying their natural history and peculiarities, that has never yet been realized.

"Such a gathering might well take place after the fashion of the late Exhibition, at Alipore, of the lower animals and the products of the country.

"The object here proposed surely has not less interest, for it is not merely in its scientific aspect that it merits consideration.

"It is not necessary now to enter into details; the general proposition is all I need desire to place before the Society. Should it meet with support from the Council, I should be happy to aid in devising a detailed plan as to the extent of the aid we should seek from Government and the public.

"Knowing the deep interest you take in this subject, I feel sure that you will agree with me in the general proposition. I therefore leave

it to you to commend it to the Council, with such support or alteration as you may deem expedient."

Yours sincerely,

*Calcutta, 16th December, 1865.*

J. FAYRER.

Extract from the Proceedings of the Council under date the 2nd February, 1866.

"Read the minutes of the Council on Dr. Fayrer's letter, proposing that assistance be requested from the Government in collecting in an Ethnological Exhibition, typical examples of the races of the Old World, that they be made the subject of study when collected.

"Referred for report to a Committee consisting of Dr. Fayrer, A. Grote, Esq., Dr. D. Boyes Smith, W. L. Heeley, Esq., Dr. John Anderson, and Dr. S. B. Partridge; with power to add to their number."

No. 139.

From JOHN ANDERSON, Esq., M. D.,

*Natural History Secretary, Asiatic Society.*

To E. C. BAYLEY, Esq.,

*Secretary to the Govt. of India, Home Department.*

*Asiatic Society's Rooms, Calcutta, 8th March, 1866.*

"SIR,—With reference to the annexed letter from Dr. J. Fayrer to the Natural History Secretary of the Asiatic Society, I have the honor to inform you, that the Council of the Society have considered the proposition embodied in the letter, and, I am requested to say, it has received their cordial support.

"The Council were unanimous in regarding the proposition as one highly calculated to advance the science of ethnology, and they believe it to contain a recognition of the only method by which many of the historical, philological and anatomical facts of the science will be rightly understood. I am, therefore, directed to request, in the hope that the proposal will meet with the approval and support of Government, that the claims of Dr. Fayrer's admirable and original proposition may be submitted for the consideration of His Excellency the Governor-General in Council.

"In the proposition, as it originally stands, it is intended to bring together in congress, typical examples of all the races of man found scattered throughout the Asiatic Continent and the Pacific Archipelago, and in no other part of the world does man present such a diversity of

physical, linguistic and social characters :—characters, however, which, as yet, are meaningless and unconnected.

“ Human history and tradition, and all the facts bearing on the history of the domestication of the lower animals, point to the above geographical area as the first residence of primæval man ; the enlarged study, therefore, of recent man in the area becomes one of surpassing importance.

“ The Council are of opinion that one great reason why the Science of Ethnology has not progressed in a ratio corresponding with that which in past years has characterized the advance of other and cognate sciences, is due to the fact that the Natural History method has never as yet been applied to the elucidation of the various phenomena which ethnology offers for our observation and research. They believe that Dr. Fayrer’s proposition is based upon an appreciation of this great want, and they feel convinced, if the method which he has propounded for meeting it, is carried out in an enlightened spirit and countenanced by the support of a liberal Government, that Ethnology will enter upon a brilliant career of discovery.

“ It is proposed to bring together typical examples of each race, and to make them the subject of careful and scientific description. Every physical character will be carefully noted and registered by means of photographs and by plaster of Paris casts, and the type of each spoken language will be determined, and the prominent social customs of each tribe will be described ; and by applying the comparative system or true natural history method, an attempt will be made to determine their affinities.

“ The Council have the honor to suggest that the proposed Ethnological Congress would form a fitting adjunct to the General Industrial Exhibition for 1869-70, which the Governor-General in Council has recommended for the sanction of Her Majesty’s Government. On such an occasion, Calcutta, owing to its geographical position, will be thronged with the specimens of many Indian and Asiatic tribes and races ; and the Council are of opinion, that if the opportunity be fully taken advantage of, little difficulty will be experienced in illustrating the Ethnology of the whole of the area to which I have alluded, and in bringing together nearly all the persistent modifications of the human race.

"The Council are fully impressed with the importance of the many and intricate details which will have to be considered before the scheme is fully matured, whilst they appreciate the many difficulties which suggest themselves: still they are satisfied that the scheme is one which can be matured, if the Government of India will give it their countenance and support.

"As a preliminary step to the further maturing of the scheme, I am desired to suggest that a detailed statement of the various races found in India be called for from each Government. The Council believe that such a list would be of great interest, and prove a valuable aid to the study of Ethnology.

"If the sanction of Government is given to Dr. J. Fayer's proposal, and the Council's suggestion that the Congress should form a part of the General Industrial Exhibition for 1869-70 is approved, it will be necessary ultimately to interest the services of the French, Russian, Chinese, Spanish and Dutch Governments, with the view of obtaining examples of the various tribes found in their Asiatic territories, and from the interest which the majority of these Governments have always manifested in the progress of science, the Council feel confident that the proposed Congress will meet with their cordial support.

"Knowing that the Government of India has always, in the past, lent aid to any scheme tending to spread a knowledge of the benefits of civilization and to advance learning, the Council have every assurance of the success of their proposition, and feel confident of the support of Government."

I have, &c.

(Sd.) JOHN ANDERSON, M. D.

*Secretary for Natural History, Asiatic Society.*

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A copy of the above was also addressed to the Secretary, Government of India, Foreign Department.

No. 141.

From JOHN ANDERSON, Esq., M. D.,

*Natural History, Secretary, Asiatic Society.*

*To the Secretary to the Government of Bengal,*

*Asiatic Society's Rooms, Calcutta, 8th March, 1866.*

"SIR,—I have the honor to submit for the consideration of His



Honor the Lieutenant-Governor, the accompanying letter from Dr. Fayer to the Natural History Secretary of the Asiatic Society of Bengal, and a copy of a letter addressed by the Council of the Asiatic Society to the Foreign and Home Secretaries to the Government of India.

"I am requested by the Council to lay before you a modification of Dr. Fayer's proposal, in the hope that it will meet with the approval of His Honor the Lieutenant-Governor. The Council believe that this modified proposition might be carried out with comparative ease during the Agricultural Exhibition at the end of the present year, and with great advantage to Anthropological Science.

"This modified proposition is not intended to interfere with or supersede the original one, which the Council vain hope will meet with the cordial support of the Government of India.

"The Council are of opinion that an Ethnological Congress of all the tribes found in Bengal, Nepal and Burmah, and in the Andaman and Nicobar islands would be one of easy accomplishment; especially at the time indicated, as examples of many of the above tribes will be drawn to Calcutta by the Agricultural Exhibition.

"If this proposal meets with the approval of the Lieutenant-Governor, the Council of the Asiatic Society have to request, with a view to further details, that His Honor will be pleased to instruct all Commissioners in Bengal to furnish official lists of all the races of men found in their respective districts, and to indicate in these lists the means at their disposal for the transport of individuals of each tribe to the Congress in Calcutta, and the probable expense of so doing.

"The Council, after a careful consideration of the whole subject, believe that this is the first step to the completion of the design, and as all the arrangements will still remain to be made for the transit of specimens of each race to Calcutta after the above returns have been supplied, the Council earnestly request that the information now called for, may be furnished not later than the end of April.

"The Council, in recommending this project for the consideration of the Lieutenant-Governor, feel certain that there can only be one opinion regarding the scientific importance of Dr. Fayer's conception in its modified form, and of the amount and kind of knowledge it will convey to us of Indian Ethnology; and they have therefore every

confidence in submitting the proposition for the sanction of the Lieutenant-Governor, who has always manifested a keen appreciation of the benefits which result from scientific research."

I have, &c.

(Sd.) J. ANDERSON, M. D.,  
*Natural History Secretary, Asiatic Society.*

No. 1577.

*From J. GEOGHEGAN, Esq.,  
Offg. Junior Secretary to the Govt. of Bengal.*

*To the Secretary to the Asiatic Society of Bengal.*

*Fort William, the 16th March, 1866.*

General.

SIR,—I am directed to acknowledge the receipt of your letter, No. 141 of the 8th instant, and in reply to say that instructions have been issued to all Commissioners under the authority of the Lieutenant-Governor, for the preparation and submission of lists of all races of men found in their respective divisions. I am at the same time to point out that the Asiatic Society are mistaken in supposing that there will be a general Agricultural Exhibition held at the end of this year. It is not proposed to hold such exhibition till the cold weather of 1867-68.

I have, &c.,

(Sd.) J. GEOGHEGAN,  
*Offg. Junior Secy. to the Govt. of Bengal.*

Mr. Campbell then addressed the meeting as follows:—"My next motion is this—

2. "That the Society approve of the action of the Council in the matter."

"You have now heard the correspondence which speaks for itself and shows you Dr. Fayer's plan and the proceedings of the Council upon it. It is true that the whole matter is as yet in embryo, but my object in bringing it forward to-night, is the hope of enlisting, in favour of the project, the sympathies of the members of the Society in all parts of the country, and of the public at large. Nothing can come into the world full fledged, and things don't grow in the dark. I hope that by the aid of many energetic and highly-informed mem-

bers, and by enlisting in the discussion the Public and the Press, the thing may gradually take practical shape and fruit may be borne.

"I will not now address myself to the more magnificent proposal which Dr. Fayrer, with a worthy enthusiasm, hopes to realise some years hence, a great International Congress, in which the races of all Asia, Australia, and the Isles even to the farthest Pacific, may be collected together in Calcutta, as a great centre, and all the Savans of Europe and America may flock here to see them. *That* may, I hope, some day be realised; but it will take time, and there are steps intermediate before arriving at that consummation. I do not wonder that at this early stage the Government of India should cautiously abstain from pledging themselves to this Congress, till the project has taken a more definite shape. Meantime they give us the assistance which we desire, by collecting information for us. Looking especially to the advantage of a practical beginning, I would submit to the meeting a few remarks regarding the humbler project, which is the subject of the letter to the Government of Bengal. It seems probable that a commencement can best be made by Local Ethnological Exhibitions on a comparatively small scale, and such as can be carried out at small expense and with machinery ready to hand. The body of scientific men in this country is not so great, nor the interest of the public in a single subject so absorbing, that a Local Ethnological Exhibition could be expected to stand alone; but it may, as the Special Committee on the subject thinks, with great advantage and interest, be combined with the Local Agricultural and Industrial Exhibitions. For a project of this kind, no place is so favourably situated as Calcutta, and no country contains a greater and more interesting variety of races than the Bengal Lieut-Governorship and its borders. If we go no further than the bazars of this city, we there find an immense assemblage of most marked tribes and races of almost every nation and every clime of Southern Asia and the Isles. And, as I think I once before remarked, if we only explore this 'maidan' at our doors; and examine the coolies working on the ditches, we may discover races more peculiar, more unknown and undescribed, more ancient, and more interesting, than in any savage and remote country in the world. The aboriginal races come down very largely for labour of this kind. I often stop and look at them, and I have tried to make something of

them, but they don't understand me ; I don't understand them ; and they don't seem to realise the interest of ethnological inquiries, so I have not progressed much. In brief, however, I say, that if we go no farther than our bazars and our labouring coolies, we have the materials for a large and important Ethnological Exhibition. The varieties of the race are there, but without some arrangement, classification, and means of enquiry, little can be done. The proposal really is little more than to collect and marshal good and characteristic specimens of the races ready to hand, at such time and place, and with such facilities for communication, that they can be systematically studied by those who take an interest in such matters.

"To render complete an Exhibition of this kind in Calcutta, we should hope that the Local Government would consent to bring together, at no greater expense than is now devoted to the transport of animals and goods, specimens of such races subject to it, as are not found in and about Calcutta. I will only glance at some of the races within the limits of the Province. To begin with, we have not only in Bengal but also in Behar a large portion of Hindoostan, and good samples of the Hindustani races. All or almost all the tribes and castes of Bengal and Hindustan, would be represented without any difficulty. On the western border-land, in the Chota-Nagpore Commissionership and the borders of Cuttack, we have what I can only describe as a perfect congeries of aboriginal tribes of every kind. Dravidian Gonds and Rajmahalees, the Coolie tribes, Moondales and Bhoomiges and Sontals ; Bhooyas and Khonds and others yet unclassified. They are all within easy reach of Calcutta, (when not, as they are for the most part, already here,) and they have much engaged the attention of a very scientific man, Col. Dalton, the Commissioner. An exhibition of Aborigines would be the easiest thing in the world. And as they are such excellent labourers, they might be utilised as Coolies to put in order the Exhibition grounds at certain times, while at others they take their seats for the instruction of the Public.

"Then on the other side of Bengal, on the East, we have another equally extensive congeries of races of another great stem of the human family, the Mongolian and Indo-Chinese, represented in its principal branches, Thibetan, Burmese, Siamese proper, and by a vast variety of tribes, civilized and savage. Of these also, an assorted cargo

might very easily be brought down in a Steamer. A few Andamanese would give us one of the most primitive and interesting of all races. The port of Calcutta would supply Chinese and Malays, Africans, and men of the Persian Gulf and Arabia. Some interesting specimens might be obtained from Nepal and Burmah, each within a very few days' journey. Altogether, I maintain that at a very small expense, and with very easy arrangement, a very large and important Ethnological collection might be brought together at any Exhibition in Calcutta. The plan then which I would suggest, would be somewhat as follows. That an Ethnological branch should be added to the next Agricultural Exhibition, in which, without in any way degrading men and brethren to the position of animals, opportunity should be given for studying man at least to the same extent to which animals are studied; a study which, in the case of humans, should extend to language and to mental qualities, as well as to physical qualities. I would engage a suitable number of individuals of pronounced type, as Exhibitors on a suitable remuneration. I would erect a sufficient number of booths or stalls divided into compartments, like the boxes in a theatre or the shops in a bazar; I would arrange, that on certain hours, on certain days, the Exhibitors, classified according to races and tribes, should sit each in his own stall, should receive and converse with the Public, and submit to be photographed, painted, taken off in casts, and otherwise reasonably dealt with, in the interests of science. I would have each stall properly labelled with particulars of race, habitat, age, &c. of the occupants, and would provide competent interpreters to enable them to communicate with the Public. In this way I think that a commencement might be made of such a scientific study of man, as has never yet been attempted; and I believe that those who first in practice break the ice and commence work in this direction, may be the Pioneers of great movements and earn for themselves a name in history.

"I hope, I need scarcely argue, that a movement of this kind is no mere *dilettanteism*. Of all sciences, the neglected study of man is now recognised as the most important. The breeding of horses is a science; the breeding of cattle is a science; I believe that the breeding of short-horns is one of the most exciting of English occupations, but the breed of man has hitherto been allowed to multiply at hap-hazard:

Man himself should surely be the subject of a science; not only are his physical features parallel to those of the animals, and capable of a like improvement, but we know that mental qualities also are hereditary, and we may presume capable of similar improvement. From a scientific study of Man, his physique, his language, his laws, his mind and his manners, much of history, prior to written record, is brought to light; and as history repeats itself, by studying contemporaneous races in an early stage of development, we may best see man as he existed many thousand years ago. When we better understand his nature, his varieties, and the laws of his development, we may better improve him. Already great questions are pressing on the world, with which, from want of a sufficient knowledge of the creature man, we are totally unprepared to deal. The world is becoming more and more one great country; race meets race, the black with the white, the Arian with the Turanian and the Negro; and questions of miscegenation or separation are very pressing. In more than one quarter of the world the Negro is a great difficulty, and opinions regarding him are still utterly discordant. Some assert him to be not only a man and a brother, but just as good as ourselves; others assert that he is only fit for slavery. Even in these days, I find that in England, at the Anthropological Society, a bold naval officer broadly propounded that last doctrine, apparently, (if we may trust the report,) with considerable sympathy among the audience; and he even went so far as to enunciate, with reference to the late lamentable occurrences in Jamaica, that it was totally unnecessary to wait for the evidence, since, to his knowledge, the Negro is an animal so vicious, so stupid, so degraded, that it *must* have been right to shoot him down. To solve the great questions of the day, we ought to know how and how far the varieties of our race are capable of improvement; what is the effect of the intermixture of various races, and much more besides. We have here, as I said, at a point where the extremes of different races meet, and where we have them both pure, and blended in every possible degree,—we have here, I repeat unrivalled opportunities for such studies, and I trust that we shall make the most of them. I beg to move that the action of the Council in this matter be approved by the Society."

Mr. Beverley seconded the proposition; which was then put to the meeting, and carried unanimously.

Mr. Campbell then rose to propose the third resolution, of which he had given notice, and addressed the meeting to the following effect:—

“I hope we may look to see the way paved for a great Ethnological Congress, not by one only, but by many local Exhibitions. I have addressed myself more particularly to that which we may, I trust, before long have in Calcutta; but there is one other locality which I would also wish to be permitted to make the subject of a special motion, on account of its extreme importance. I allude to the Punjab. I may almost say, that if one-half of the races of mankind are to be found in Bengal, the other half may be found in and about the Punjab. At any rate not only all India, but all Asia, and a good deal besides, would be represented at the two points of Calcutta, and Lahore or Peshawur: the south and east at the one, the north and west at the other. If the varieties to be found in Bengal are perhaps more numerous and more original, on the other hand, the highest types of the human race are to be found in and near the Punjab. The farther you go towards the northwest of India, the finer and handsomer do the people become, and I have no hesitation in saying, that the very highest development of the human race, the greatest personal beauty of feature and form, is to be found in those regions; while, in point of mental acuteness also, the Cashmeree, for instance, is probably excelled by no race in the world. The people of the Punjab plains, though somewhat dark, are really as fine a race as can anywhere be seen, and in the hills immediately beyond, we have races free from any intermixture of the blood of the Southern Aborigines, (which probably more or less intermingles with most Indian races); the very purest Arians, fair, robust, high-featured, eminently handsome. Whether we European Arians have mingled with some aboriginal Esquimaux or Finns or primeval Fish-eaters of some sort, I do not know; but we cannot all be said to be remarkably beautiful, especially the labouring classes. In the hills of the Indian Caucasus, almost every coolie that you meet with a load of apples on his back, might be taken in marble as a model of the human kind. In the Punjab then, from among the various races of Punjabees of the plains and hills, the Cashmerees, the Affghans, the Chilasees and Kaffirs, the Persians and Beloochis, as well as some of the Northern Hindustanee tribes, might be collected the finest show of Arians possible in the world. Again, specimens of all

the Turkish and Mongolian tribes are readily available. That most remarkable race of Mongolian feature, Persian tongue, and remarkable energy and industry, the Hazarihs of the hills about Ghuznee, come freely to the Punjab to seek labour; and there are in those quarters many other peculiar tribes. The Turkish race reaches in fact into the territory of the Maharajah of Cashmere, and both by that route and by Cabul, Turcomans and Northern Asiatics of every degree find their way to the Punjab. There is a Thibetan population all along the north-eastern frontier of the Punjab territories, and the races of Central Asia come in freely by that route. Thus then we might have at Lahore the finest Arian races, some of the finest Turanian races, and a great variety of races blended between the two. We may look, I think, to the Lieutenant-Governor of the Punjab to encourage any good movement for the advancement of knowledge. I therefore would bring the present movement specially to his notice, by moving the following resolution :—

“ 3. That a copy of the Proceedings be communicated to the Punjab Government, with the expression of a hope that it also will take an early opportunity of collecting and comparing specimens of the various very interesting and highly developed races in and about its territory, as a measure preliminary to a more general Ethnological Congress.”

Mr. Atkinson seconded the resolution.

In support of the motion, Mr. Beverley wished to point out that, although from the enormous variety of district frontier tribes, Bengal offered peculiar facilities for such an Exhibition, as had been proposed, still, much valuable information might be collected in the Punjab, in which direction lay the ancient Iran, the cradle of the human race. It was to be expected that we should there find important facts which would help to throw light on the earliest history of man. The degree of assistance which the Society might expect from Government in this matter, would depend, in a great measure, upon the exertions with which, in the mean time, it amassed the requisite facts and information to give interest and value to the specimens when collected. He might say, the world was looking to this society for the solution of many of the difficulties in which the early history of man was involved, and it therefore behoved each member to exert himself. There were two



aspects in which this subject might be studied, the physical relations of the various races, and their language and customs. Every one might not be competent to deal with the subject in both branches, but there were few of the Society's members, who could but take an interest in one or the other of them.

Mr. Blanford could not accept the suggestion of Mr. Beverley, that the centre from which man had radiated, was probably identical with the traditional centre of the Arian race. It is indeed unknown at what geological period the human race commenced, but the known facts of primitive ethnology indicate that man's development in his earlier stages was very slow, and he could not have made, and indeed so far as we know, did not make his appearance in Western Europe, at the close of the glacial period, until he had made very great advances, and had discovered the arts of producing fire, and of providing himself with clothing; the former especially a discovery of great difficulty and of the highest importance. But the climate of Iran was not at the present day one suited to an utterly savage race, and there is good reason to believe, judging from the observations of Dr. Hooker in the Lebanon, and of Indian Geologists on the former extension of the Himalayan glaciers, that in the later Tertiary period, it had been still less adapted to the wants of savage man. Moreover during a great part of the later Tertiary period, a sea of considerable extent had occupied much of the region of Central Asia, east of the Caspian and north of the Hindoo Kush, and had, for a long period, acted as a barrier between the faunas of S. E. Asia on the one hand, and that of Siberia and Europe on the other. Even at the present day, there is a marked distinction between these faunas. He thought that the region of the anthropoid apes, which in habits and wants most nearly resembled the undeveloped animal man, was a far more probable centre of the latter's origin, and it was noteworthy that in this and the neighbouring region of Australia, are to be found at the present day some of the lowest human types, the Negritoes and Australians. We could do little more than speculate at present, but such facts as we have, appeared rather to point to an equatorial region as the place of man's origin, than to that in which man had developed into a higher form of animal, and from which he had issued at a later period to dispossess and drive backwards the less advanced forms of his species.

Mr. Beverley, while admitting the high importance attached to geological discoveries, nevertheless doubted whether the investigations in Central Asia had been sufficiently elaborate, to warrant the conclusions drawn by the Honorary Secretary. So far, however, from his having started a *novel* idea, the theory was that which, up to the last year or two had obtained universal acceptance, and the *onus probandi* lay on those seeking to overthrow it. But there was some presumptive evidence in favour of Iran, or the parts of Central Asia thereabout, being the earliest seat of the human family. It was to that country that the earliest traditions all pointed, and the history of every country always led us back. It was from Central Asia that successive races had spread both east and west to drive on and supplant each other. In the west we had the irruptions of the Huns, the Goths and the Turks, while India itself had been frequently invaded from the north-west. Indeed it would seem as though, in the struggle for existence, the most barbarous tribes had been driven farther and farther from the common centre, and while seeking therefore for aboriginal tribes in the islands of the Pacific and other out-of-the-way corners of the world, we should nevertheless expect to find the cradle of the human family in that region, where, apart from European influences, the race had made the greatest progress in physique and civilization.

Major Norman observed that many of the Punjab regiments offered a great variety of materials for the study of the races from Central Asia. In one regiment there were a number of Siah-Posh Kafirs, in another, men from the neighbourhood of Kandahar. He thought that an exhibition of such men would be most desirable.

Mr. Campbell could bear witness to the extreme interest of the Ethnology of many of the Punjab regiments. As a member of the Statistical committee he had endeavoured to obtain a return of the various tribes represented in these regiments, with tables of the average height, weight, and character of the men. This last characteristic is especially well developed by the discipline of a regiment.

Dr. D. Boyes Smith stated that Dr. Fayer was unavoidably absent from the present meeting, to his own great regret.

The motion was then put to the vote and carried unanimously.

The Chairman gave notice that at the next meeting the Council would move: "That this Meeting is desirous of placing on record its

appreciation of the enlightened interest in the promotion of the study of Oriental Literature, evinced by the Lieut.-Governor of the Punjab, in his late reply to the address of the founders of the proposed Oriental College at Lahore."

The following letter from E. C. Bayley, Esq., Secretary to the Government of India in the Home Department, was read :—

No. 3169.

*From E. C. BAYLEY, Esq.,*

*Secretary to the Government of India.*

*To J. ANDERSON, Esq., M. D.,*

*Secretary of the Asiatic Society.*

*Dated, Fort William, the 31st March, 1866.*

Home Dept., Public.

Sir,—With reference to your letter No. 172, dated the 23rd instant, I am directed to state that the "Bill to provide for the establishment of a Public Museum at Calcutta," having passed into law as Act No. XVII. of 1866, the Governor-General in Council is prepared to take over the collections of the Society, and to place them in the hands of Trustees, in conformity with the provisions of the above-mentioned Act, and with this view, His Excellency in Council requests that the Council of the Asiatic Society of Bengal will, as required by the law, nominate four Trustees as early as possible.

I have &c.,

E. C. BAYLEY,

*Secy. to the Govt. of India.*

Letters from C. C. Stevens, Esq. and R. L. Martin, Esq., intimating their desire to withdraw from the Society, were recorded.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected ordinary members :—

H. C. Broderick, Esq., M. D.; N. A. Henry, Esq., the Belgian Consul.

The following gentlemen were named for ballot, as ordinary members, at the ensuing meeting :—

W. H. Coxe, Esq., Krishnagur College, proposed by Mr. A. Grote, seconded by Mr. H. F. Blanford.

Lieutenant B. Lovett, Kohat, proposed by Mr. H. F. Blanford, seconded by Mr. W. S. Atkinson.

Baboo Peary Chánd Mitra, proposed by Mr. W. S. Atkinson, seconded by Mr. H. F. Blanford.

Baboo Soorut Nath Mullick, Howrah, proposed by Baboo Jádava Krishna Singh, seconded by Baboo Rajendralálá Mitra.

The receipt of the following communications was announced :—

1. From Baboo Gopinath Sen, an abstract of the results of the Hourly Meteorological Observations taken at Calcutta for December, 1865.

2. From Lieutenant-Colonel R. C. Tytler, "Description of *Drymoica Verreauxii*."

3. From C. Horne, Esq., "Notes on Jusrow village and its ruins."

4. From W. Herschell, Esq., "Description of the Chandrarekha Gurh near Sashtanee, Purgunnah Nyegong, Midnapore."

5. From Lieutenant-Colonel J. E. T. Walker. "The Russian Geographical operations in Asia."

6. From G. E. Ward, Esq., "Note on the existence of Buddhist remains in the Dhoon."

The Secretary read Mr. Ward's note as follows :—

"As I see that Mr. Forrest has again directed attention to the probable existence of Buddhist or other remains in the Doon, I take the liberty of writing you word of some facts which have come under my own observation, in the hope that more experienced antiquaries may be induced to examine the subject, or at all events that I may gain some hints as to any materials that may exist, for arriving at some knowledge of the Doon's past history.

"About two years ago, the proprietor of an estate at Horawala, in trenching for tea, turned up the remains of what he took to be an old palace. No coins or inscriptions were found, but a large quantity of bricks, of which some are said to have measured  $24' \times 24' \times 9'$ . No one being on the spot who cared for such things, the bricks were broken up, and the greater part built into a tea factory. The largest brick I could find at all perfect, measured  $16\frac{1}{2} \times 16 \times 6\frac{1}{2}$ , but I saw many shapeless fragments of what must have been larger bricks than this one. One fragment I measured was  $15 \times 9 \times 8$ . I understand that there was a mark found upon all the bricks turned up; but I found no traces of such a mark myself, and could not form a clear idea of the nature of it from what I heard. There is a mound near the

tea plantation, which, I suspect, contains more relics. Horawála is situated on the slope of the Himalayas immediately under Badráj, at a distance of about 8 or 9 miles, as the crow flies, from the Jumna, and occupies a commanding position. Separated from Horawála and its surrounding small villages by the Kot Naddi, is a lofty eminence called by the natives Dhobri, which bears a local reputation of having once been a place of some importance. Numerous fragments of bricks are washed down from it, by the torrents formed during the rains, into the Kot Naddi on the east and the Maota on the west. Both these rivers have their source in the ravines of Badraj, and for some distance run almost parallel to each other with a very small interval. The Maota, however, is united to the Gahna and takes its name for some distance before the Kot joins it, and with it forms the Sitlawala Naddi. The hill called Dhobri, which is only known to the records as part of the township of Súrna, is a long narrow and excessively steep barrier between the Kot and the Maota. Ascending from the Kot, one reaches a terrace about half way up, which is exceedingly regular in its formation, and much unlike anything I have observed in the other hills below the Himalayas. The summit is now barely a yard in width, the descent to the Maota being a tremendous precipice, though the tiny thread of water which constitutes that river, runs far away from the side. As one proceeds to the north along the summit, one meets two sudden breaks in the hill, which have every appearance of being artificial. Passing these, one can with difficulty arrive at a peak, now tenanted by birds, with precipices on three sides, and the latter of the two dykes I have mentioned on the fourth. Nothing can exceed the desolation which at present characterises the spot, yet even on this summit I found fragments of bricks similar to those I had seen all about the hill. These fragments measured 8' in breadth by  $2\frac{1}{2}$  in depth, and the greatest length I saw was 9'. I must add that north of this spot and of Horawala, are the villages of Kotra and Kothi, which names, with that of the river Kot, seem to indicate the memory of some ancient citadel. The remains at Pirthipur consist of an old fort surrounded by a moat and by thorny bamboos, and a Hindu temple and some Satis; but there are traditions of an extensive city situated in what is now the Pirthipúr forest, and traces of an old aqueduct running through it. In recent times Pirthipúr was the place where

the Viceroys (Miyás) of the Náhan Raja held their court, as those of the Gurhwál Raja did at Nawáda on the Nágsiddh hill. Large bricks are found at the latter place, built in with those of a later date, the smallest I have seen; and I think it probable that both Pirthipúr and Nawáda were selected as being historical places. Besides the spots I have mentioned, the ancient remains of Santaurgarh, said to have been demolished by Akbar, the site of Kalyanpúr marked by a curious well lined with alternate rows of brick and stone, and a hill immediately above the village of Bijepúr on the opposite side of the river Tons, are, I think, worthy of attention. At present less seems to be known of the Doon than of any other part of British India, though there can be no doubt, it has been a most populous district, and is one of the most sacred tracts of Hindu geography. The native traditions now current are various, and not easily reconcileable. Some attribute the origin of the name Doon to Drona; and the spot is pointed out near the junction of the Tons and the Jumna, (outside the Doon,) where the sage performed penance for many years. Another story is, that a Baujára whose name is not given, peopled the valley and remained unmolested for some years, through the neighbouring Rajas being unaware of the existence of the Doon. There is a spot called Gangbhewa near the Jumna, where the Ganges is said to have visited this Baujára, who was at this time unable to proceed to Hurdwar, but this tradition would seem more naturally to apply to Drona."

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Dr. Anderson reported that the following specimens were purchased for the museum during March last:—

- One skeleton of a Bhootea.
  - One *Ciconia alba*.
  - One *Graculus carbo*.
  - One *Grus Antigone*.
  - One *Mycteria Australis*.
  - One *Paradoxurus Masungus*.
  - One *Corvus splendens*.
  - One *Emplocomus albo-cristatus*.
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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR MAY, 1866.

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The monthly general meeting of the Asiatic Society of Bengal was held on Wednesday, the 2nd instant, at 9 P. M.

Bábu Rájendralála Mitra, senior member, in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced :—

1. From N. A. Henry, Esq., a copy of “*Racines Idiotismes Fondamentaux de la langue Turque*,” and “*Levée des Tangouss*.”

2. From the Lieutenant-Governor of the North-Western Provinces :—

A specimen of the “Madar” bark fibre and specimens of thread, cord and cloth, made from the same fibre, with specimens of cloth made from the cotton, and cotton and fibre of “Madar,” collected by R. Adams, Esq.

The following letter accompanied the donation :—

“*Government House, Allahabad, 5th April, 1866.*”

“Dear Sir,

“At the request of the Lieutenant-Governor, I have the pleasure to forward a few specimens of manufacture from the fibre and cotton, or cotton silk of the ‘Madar’ plant, so common throughout these provinces.

“His Honor thinks that the specimens, together with the note on the capabilities of the plant, may perhaps prove of interest to the Society, although he believes the subject has been frequently discussed in former years.

“Yours &c.

(Signed) “H. GARDEN,

“*Private Secretary.*”



3. From the Government of Bengal, a copy of Max Müller's Rig Veda, vol. IV.

4. From Bábu Rájendra Mallik, a specimen of *Dromaius Novæ Hollandiæ*, one of *Grus antigone*, and one of *Ara areauna*.

5. From the Barrackpore Park Menagerie, a specimen of *Struthio-camelus*.

6. From Dr. John Anderson, a specimen of *Limulus rotundicauda*, Hooghly, and one of *Platanista gangetica*. The first male specimen presented to the Museum.

7. From P. Hartnell, Esq., Commander, ship "St. Bernard," a specimen of *Xiphias gladius* (swordfish) from the Bay of Bengal.

8. From Kumár Pramatha Nátha Roy of Dighaputty, through Bábu Rájendralála Mitra, a specimen of *Calcharius Milherti* from the river Ganges.

9. From Bábu Protáp Chunder Ghoshe, a specimen of *Onychocephalus acutus* from the streets of Calcutta.

The following gentlemen, duly proposed at the last meeting, were balloted for, and elected ordinary members :—

W. H. ~~Coxe~~, Esq., Lieutenant B. Lovett, Bábu Soorut Náth Mullick, and Baboo Peary Chand Mitra.

The following gentlemen were named for ballot as ordinary members :—

R. B. Smart, Esq., Revenue Surveyor, proposed by Lieutenant-Colonel Gastrell, seconded by Mr. H. F. Blanford.

Captain J. Macdonald, Bengal Staff Corps, Nagpore, proposed by Colonel Gastrell, seconded by Mr. H. F. Blanford.

T. W. Gribble, Esq., B. C. S., Sasseram, proposed by Mr. A. Grote, seconded by Mr. H. F. Blanford.

J. Sime, Esq., B. A., Professor, Doveton College, proposed by Mr. H. Blochmann, seconded by Mr. H. F. Blanford.

W. H. Bourke, Esq., Barrister-at-Law, proposed by Dr. D. B. Smith, seconded by Mr. H. F. Blanford.

Dr. H. B. Buckle, C. B., Calcutta, proposed by Dr. D. B. Smith, seconded by Mr. H. F. Blanford.

C. Brownfield, Esq., Assistant Revenue Surveyor, Gowhatty, proposed by Colonel Gastrell, seconded by Mr. H. F. Blanford.

Letters from Dr. A. ~~McC~~Macrae, and Lieutenant-Colonel D. G.

Robinson, intimating their desire to withdraw from the Society, were recorded.

The Chairman said that, in behalf of the Council, he had to submit to the meeting an important resolution, and he regretted much that the President or the Vice-Presidents were not present to take charge of it. But as a native of India, deeply interested in the education of his countrymen, he could not put it to the vote without saying a few words on the subject of it. That subject was no other than the intellectual culture of a whole race, and on its correct understanding depended the welfare of a hundred and eighty millions of fellow beings. It had already engaged the attention of some of the greatest scholars that Europe had sent out to India, and some of the most revered names in the annals of the Society had been associated with it. But the question had not yet been finally settled. It was yet undecided, at least in India, whether the masses should be taught through the medium of the vernacular, or through a foreign language, and ever and anon the most startling theories were propounded on the subject. But the sympathies of the Asiatic Society had always been with those who advocated the use of the vernaculars. "Thirty years ago, the late distinguished naturalist, Mr. Brian Haughton Hodgson, whose bust adorns our hall, and whose numerous and varied contributions adorn the pages of our Journal, most ably advocated the preëminence of the vernaculars in a series of letters, whose arguments yet remain unanswered; and this day I have the honor, in the name of the Council, to move that we record our approbation of the enlightened opinion of another of our distinguished associates, that to render education accessible to all, to make knowledge permeate the masses, it must be offered through the vernacular." It was not to be denied that the current languages of India were as yet poor and without a healthy literature, that all the sciences were locked up in the languages of Europe, and that to render them accessible to the people, they must have recourse to the "open sesame" of the English tongue, but that "open sesame," that Aladin's lamp of knowledge, however useful when once acquired, was not easy to be had. It was easier far to create a healthy scientific literature in any vernacular language, than for a large nation to acquire a foreign tongue. "I have myself devoted some of the best years of my life to its

acquisition, and my broken English this night will convince you how unsuccessful have been my labours." Referring to the rules of the Calcutta University, he said that a course of nine or ten years was necessary to give a sufficient knowledge of the English language, to enable a boy to begin the study of the sciences. Now, as language was but a means and not an end, and as men did not learn it for its own sake, but for the knowledge that was to be acquired through its medium, that language must make the best medium of education which was acquired the easiest; and as the vernacular of a nation was acquired without any labour or exertion, as it grew with its growth, and ripened with its maturity—a part and parcel of its existence—it was infinitely better adapted to make learning easy, than the English which could not be learned in less than ten years. The carpenter who begins by mining the crude ore, smelting his iron, and forging his chisel, before commencing upon a table, will be far behind him who takes up a ready made chisel in the market; and the table that will be turned out by the latter will be incomparably superior to that of the former. And what was true of the carpenter and his chisel, was equally so of the scholar and the instrument of his learning. The man who would take up a language ready to his hand, would be far more successful in his studies, than he who would devote a whole decade of years to its acquisition. It may be said that when the English has been naturalised in this country, it would come home to the people, just as well as the vernacular. But to wait for that time, would be to indefinitely postpone their education. A hundred years of British rule in India had not yet taught more than one in ten thousands of the native inhabitants to speak the English language. Seven centuries of Moslem supremacy in this country, instead of uprooting the vernaculars, served only to make the conquerors give up their own in favour of an Indian tongue—the Hindi. For more than three centuries the Norman French was the language of the court and of the camp, of business and of fashion, in England, and yet it failed to supplant the old Saxon. The Romans, those great masters of political government, had before that time made it a point of state policy, and an instrument of police, to suppress the language of their subject nations, but never succeeded in destroying a single language of any extent. The Teutonic was still the basis of the English, des-

pite the sovereignty of the Romans in Britain for centuries. But admitting that the means and appliances of modern civilization, the printing press, the electric telegraph, the railroad, and steam vessels, would effect what the conquering Romans and the Moslems failed to achieve, still it would be a work of time which must be represented by centuries, and not by years, and all that time the work of educating the masses must be allowed to stand still, and the gloom of ignorance to pervade the land. The people had not the necessary leisure, first to learn a difficult and foreign language, and then the sciences, and consequently the sciences and intellectual enlightenment had to be left to take care of themselves. Such was the case in Europe as long as the vernaculars were neglected, and so must it be in this country. In India, men had to begin life—to buffet the world for existence—at a very early age. Even in Europe, the average period devoted to education was limited to between five and six years; in India it was considerably less, and it was impossible to devote ten years out of it for the acquisition of a foreign tongue, which was not knowledge itself, but merely a key to open the storehouse of knowledge. It would be generally admitted that in European universities more time was devoted to the classical languages than to any other branches of study, and yet he thought he could assert, without any fear of contradiction, that were the classics this day made the only vehicle of science, its progress would at once be thrown back a century, and our scientific men would number by dozens instead of thousands. Hence it was that the darkness of the middle ages prevailed over England until the Norman French of the conquerors was replaced by the Anglo-Saxon, and the same veil of ignorance covered the human mind in France, Italy and Germany as long as the Latin of the schoolmen was not superseded by the vernaculars of those countries. In Russia the first dawn of civilization dated with the use of the Russian as the vehicle of education. In making these remarks, it was not at all his wish to deprecate the study of the classics and foreign languages, but to point out the superior adaptability of the vernaculars as a medium of scientific education for the people at large, and scientific education was of greater importance than the most copious or the most perfect language that was ever devised by the ingenuity of man, or produced by nature. Let those who have the leisure and the oppor-

tunity learn the classics. The training they gave to the mind would be of immense use to many. They placed at the disposal of students the productions of the greatest scholars and thinkers of antiquity. The modern languages of Europe too were of the greatest value—the English of the most vital importance—to the people of India, and the higher and the middle classes could not neglect them without neglecting their best interests. The value of the intellectual treasures which the English language placed at the disposal of the natives could not be exaggerated. Then, for the Hindus the Sanskrit was the emblem of their most cherished recollections and their ancient glory. To cast it aside, as “the sloughed skin of the past,” would be to cast away that which should be the nearest and dearest to them, to resign their nationality, and without a past to reduce themselves to the level of the Coles, the Bheels and the Sonthals. To give up the classics or foreign languages was therefore the farthest from his thought; the amenities of modern civilization rendered them the most essential parts of a liberal education; all that he contended for, and what, in his opinion, the Hon’ble the Lieutenant-Governor of the Punjab advocated, was that our system of education, to be national, should be based on the vernacular; that the vernacular was the best medium of education for the masses; and that it should not be neglected by the higher and the middle classes; for it has been justly observed by Frederick Schlegel, one of the greatest scholars of this century, that the acquaintance with foreign languages, whether dead or living, need not be associated with a neglect of the vernacular speech, “a neglect which is always sure to work its own revenge on those who practise it, and which can never be supposed to create any prejudice in favour of their politeness or their erudition.”

The Chairman then, in accordance with the notice given at the previous meeting, moved, on the part of the Council—

That this meeting is desirous of placing on record its appreciation of the enlightened interest in the promotion of the study of Oriental Literature evinced by the Lieutenant-Governor of the Punjab, in his late reply to the address of the founders of the proposed Oriental College at Lahore.

Mr. Grote said that, though a motion of the Council was in no need of a Secunder, it gave him great pleasure to support their pro-

posed Resolution which, as it required no previous notice, it had been intended to bring up before the April meeting. For some reason which, not having been present at that meeting, he was unaware of, the Resolution had been deferred, and the subject to which it had reference, was now an occurrence of three months ago. The meeting would remember that the Hon'ble Mr. Macleod had, in his reply to the address, then presented to him by the native chiefs and others, who had projected the foundation of the Oriental College at Lahore, offered them some excellent advice. Among other things he laid stress on the importance of cultivating their own literature, and it was to this part of the reply that the Council's resolution called attention. It seemed natural that the Society which had so long endeavoured to push Oriental research, and which was now making, as Mr. Grote believed, the best use of a liberal Government grant for the publication of a series of classical and historical works in the Sanskrit and Persian languages, should acknowledge the assistance which their efforts derived from such a declaration, as that lately made by the head of the Punjab Government. The Hon'ble Mr. Macleod was one of the oldest members of the Society, and there was room to hope that, under his auspices, the Auxiliary Society lately established at Lahore would grow and flourish, and thus bring additional strength to the parent Society, by increasing its own small but industrious knot of native orientalists.

Mr. Campbell asked, if he could see a copy of Mr. Macleod's address; and understanding that it was not then to be had, said that he would like to suggest whether some caution was not necessary. The meeting might have a general confidence that anything said by Mr. Macleod would be wise and good, but still the Society might be committing itself to what might seem like an expression of opinion on a matter of some nicety. No one, he believed, would doubt that the vernacular must be the medium for instructing the masses; but the Oriental University proposed, he understood, to go farther, and to use the vernacular as the medium of higher instruction in Arts, Science and Philosophy, such as would entitle to University degrees. That might be a very good principle, and a very practicable plan; he was not at all inclined to deny it, but still it was something different from the practice hitherto adopted; it was a new experiment, and

very likely an excellent experiment. The body to whom Mr. Macleod seemed to have replied in an encouraging fashion, was wholly devoted to that plan; the excellent speech of the mover of this vote was devoted to its support. Considering the position and weight of this Society, he thought the meeting must take care, that they did not rashly and incautiously commit themselves to any opinions by voting thanks to Mr. Macleod for a particular address, without knowing exactly what Mr. Macleod said. He confessed to an imperfect recollection on the subject at this distance of time. He was far from wishing to throw cold water on the motion, he only suggested that they should have Mr. Macleod's address before them.

Mr. Campbell then moved as an amendment :

"That previously to putting this motion, Mr. Macleod's address to which it refers, be laid on the table."

Mr. Blanford would have preferred that Mr. Campbell's amendment should be seconded by some other member of the Society, but it was so manifestly desirable, that the meeting should be prepared by a full knowledge of the tenor of Mr. Macleod's address, to discuss the Council's resolution, and the important questions opened up by the Chairman in connection therewith, that he could not but support Mr. Campbell's proposition, and he would therefore second it; and if carried, he would procure copies of the address in question for circulation to the members, in anticipation of the next meeting of the Society.

The Chairman explained that the remarks with which he introduced the resolution, were intended to give expression to his own individual opinion on the subject of the Hon'ble Mr. Macleod's reply, but that the wording of the resolution was general, and would not commit the Society to the extent that was apprehended.

Mr. Grote replied that the wording of the resolution was general, and had purposely been made so by the Council, with a view to avoid pledging the Society to a support of the views on the educational question contained in Mr. Macleod's reply. He would, with the Chairman's permission, read the resolution again to the meeting.

Mr. Phear said, that Mr. Grote had referred to the words of the resolution as sufficient of themselves to explain the full extent of the vote, which the meeting was asked to come to. Mr. Phear, who had not

seen or read Mr. Macleod's speech, was obliged to confess that he did not, in the least, know what was the "enlightened appreciation" to which the resolution referred. Remembering that this Society stood high in public estimation both in this country and throughout Europe, he thought it would, by affirming this resolution in the dark, either be going too far, or it would fall short of a discharge of its proper functions, and would do that which was neither worthy of its own name, nor complimentary to Mr. Macleod. Either the resolution was intended to embody some definite proposition, which was unexpressed in it, and could not now be discussed, or it amounted to nothing more than patting Mr. Macleod on the back for having said something in a speech, of which, (so far as he, Mr. Phear, could learn) the large majority of members present were absolutely ignorant. For himself he felt there was no alternative, except to vote either against the resolution, or in favour of Mr. Campbell's amendment.

The amendment was then put to the vote and carried.

After the amendment had been carried, Mr. Grote observed that such having been the fate of the resolution, he was disposed to regret that the Council had brought it forward. The expediency of having a copy of the reply attached to the draft resolution had, it was true, suggested itself to them, while the latter was under discussion; but he (Mr. Grote) and others had represented that the purport of such a document would probably be well remembered by the Society's members, and in that belief, the Council had laid their recommendation before the meeting.

The Chairman announced that the Council had elected the Hon'ble G. Campbell a member of their body, vice Mr. W. S. Atkinson, who had resigned on proceeding to Darjeeling.

Letters were read—

1. From Dr. T. Anderson, on the specimen of supposed Indigenous Tea from Tounghoo, presented to the Society at its last meeting.

"The supposed tea plant you sent me from Burmah is *Eurya chinensis*, one of the Ternströmiaceæ, the natural order to which the tea plant belongs. The leaves of *Eurya chinensis* have been frequently mistaken for tea. The plant is found all over the mountains of India."

2. From J. D. Tremlett, Esq. M. A. giving some account of the Thamman tank in the Lahore district.



“During a recent tour in the interior of the Lahore district, I heard much of the beauties of an artificial tank, in the Kassûr Pergunnah, at the village of Thamman; and as I am not aware that it has been described, the following account of it, and of the traditional history of the fraternity to which it belongs, may not be altogether void of interest.

“The tank itself is of an oblong shape, and its beauty is greatly enhanced to an European eye by the two longer sides being broken into a succession of curves, by which means the stiffness and angularity which detract so much from the appearance of most Indian works of this nature, are quite got rid of. It is surrounded by a brick wall, with ghâts in one or two places, but as there is no continuous walk immediately round it, I was unable, by pacing it, to obtain even an approximate idea of its dimensions: the headmen of the village, however, said its area was larger than that of the great tank surrounding the Sikh temple at Umritsur, and I am inclined to agree with them. The effect is also improved by a small islet, covered with trees and verdure, which rises out of the water near the western face; and the legend connected with which will be mentioned below.

“On all sides stand the samâdhs and hospices of the fraternity of Vairagee faqirs to whom the place belongs, thickly interspersed with splendid trees, peepuls, acacias and sissoos; and in passing, it may be remarked, that it is to the care of these mendicants, objectionable as the class may be in many points, that Upper India owes so many of those really magnificent trees, which make, so to speak, such frequent oases of beauty in the midst of the dull monotony of the ordinary landscape. The buildings which are all constructed of burnt brick, and stand at short distances from each other, are mostly tenantless, except for some three days in the year, in the beginning of the month of Baisakh, when a large fair is held, at which the whole country side collects. From some of the brotherhood, I obtained the following account of the origin of the sect established here, and of the tank itself:—

“About the time of the Emperor Shah Jehân, there lived in the village of Killah in the Derajât, a peasant gifted with more than mortal knowledge, by name Rai Mull. His wife, going one day to the village well to draw water, was driven away by the other women, who reviled

her for having no spiritual guide; she of course carried her troubles to her lord, and implored him to tell her who their guru was: he answered, that she must be patient, as the teacher was yet only a child of six years: but she was too true a woman to be put off with such a reply, and possibly felt that, whether the spiritual benefits to be derived from the holy guide were essential or not, the free use of the well was. Accordingly Rai Mull was talked over, and he set off at once with his wife to Keálah, a village in the neighbourhood of Battálah. On approaching the village, they see a group of children at play, one of whom, Ram Thamman, is at once pointed out by Rai Mall as their guru: when, however, he proceeded to prostrate himself before him, the child told him that he had come sooner than he should, as the time for his manifestation had not arrived; still as he had been thus hasty, his labour should not be in vain, as he would accompany him. Rai Mall was then carrying him away in his arms, when the child's parents, who were Khatrees of the village, came out with their friends, and after beating the strangers, rescued the lad. Filial duty, however, does not appear to have been one of the pious founder's virtues, for he annihilated at once, (how, is not said,) the whole of his too officious kindred, with the exception of one woman whom he spared, as she vowed that the child of which she was then pregnant should become his disciple. Rai Mull then took Ram Thamman with him to Urárah, thinking possibly that the good people of Killah were unworthy of having so holy a youth dwelling among them. After two years, however, the prodigies the youth performed won him so little favour, that he was summarily ejected from Urárah; on which, having cursed the place, he removed to a spot two coss off from the site of the present monastery.

"After this migration he begun to enrol disciples, Rai Mull holding the first place among the twelve who attached themselves to him. The present fraternity at Thamman are the successors of six of these, the remaining moiety having left no disciples. Subsequently, he is said to have removed to a neighbouring village, the proprietor of which, a Musulmán named Kálu Kára, became as much disgusted with the prodigies and miracles wrought by the holy man as the Urárah people had been before him, and imperatively ordered him to quit his land. This order, Ram Thamman quietly met by saying

that the land was his, and not Kâlu Kâra's at all ; ultimately, the dispute was brought before the masnad of Shah Jehân, who referred the litigants to a celebrated Pir at Shergurh. When called on by him for their proofs, the Musulmân said that if they were to dig on the site where the tank now is, if the land were his, an ox yoke would be found, while the Hindu affirmed that if his claim were good, the sandals, deer skin, drinking gourd, and fireplace which he had used in a previous life, would be discovered. On digging, of course the Musulmân's token was nowhere ; and on coming on the relics of Ram Thamman's prior existence, he was acknowledged with plaudits to be the indisputable lord of the soil. When he subsequently wished to improve his new acquisition, the Sheshnâg came, and at the sage's bidding, where the serpent moved, the tank formed itself.

" My informants, after this engineering exploit, had nothing further to tell of Ram Thamman, except that when one Achalnâth, who was partly a disciple of the guru, and partly remained a jogee as before, asked for quarters from his master, the latter threw a flower into the tank, and told him to dwell there ; the disciple having faith of the strongest, obeyed, and was rewarded by the tiny islet arising, of which mention has already been made. On the Bâbâ's death, his disciples built their monastic dwellings round the holy lake.

" As an illustration of the tendency of Hindu sects in the Punjab to claim affinity with the great teacher of the land, I may add that the Faqirs asserted that Ram Thamman and Bâbâ Nânak's mothers were own sisters, notwithstanding that their own account that the guru's dispute with Kâlu Kâra took place in Shah Jehan's reign, shews that their founder belongs to the seventeenth, rather than the end of the fifteenth, century.

" The whole narrative, however, is not without its value, as pointing out the strong and weak points in indigenous tradition in this country ; for, while they had nothing but wild myths to relate about the incidents in their founder's life, or of the construction of one of the finest works of its kind in the country, they were able to furnish lists of the successive heads of their subdivisions, linking the present incumbents with the immediate disciples of the guru, and to speak with a detail, which looks like truth, of the various villages whence their ancestors, or those whom they regard as standing *in loco parentum* had come."

The following communications were announced :—

1. From P. A. Minas, Esq., a short sketch of the tribes of Bhuttiana and Harriana.

2. From R. Adams, Esq., through the Govt. of the N. W. P. "Notes on the 'Madar' plant."

3. From C. Horne, Esq., C. S. "Notes on the Jumma Musjid of Etawah."

The Secretary read Mr. Horne's paper, which will appear in due course in the Journal of the Society.

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Dr. John Anderson reported that the following specimens had been purchased for the Museum :—

*Canis familiaris.*

*Felis Bengalensis.*

*Felis chaus.*

*Eclectus polychloros.*

*Eclectus grandis.*

*Loriculus pumilus.*

*Lophophorus impeyanus.*

*Casuarus galeatus.*

The Librarian submitted a list of additions made to the Library since the meeting held in February last.

## LIBRARY.

The following are the additions made to the Library since the meeting held in February last :—

*Presentations.*

\*.\* The names of Donors in capitals.

The Geographical and Statistical report of the District of Tipperah, by R. Smart.—THE BENGAL GOVERNMENT.

Notice sur le Couvent Arménien de l'île S. Lazare de Venise, by V. Langlois.—J. AVDALL, Esq.

The Astronomical observations of the Cambridge Observatory, by Rev. J. Challis, Vol. XX.—THE SYNDICATE OF THE OBSERVATORY.

Classified Catalogue of Tamil printed Books, by J. Murdoch.—THE COMPILER.

Pre-Historic Man; being a lecture delivered at the Dalhousie Institute, Calcutta, by H. F. Blanford, Esq.—THE AUTHOR.

Report of the High Ranges of the Annamullay Mountains, by Lieut.-Col. D. Hamilton.—THE AUTHOR.

Racines ou Idiotismes Fondamentaux de la Langue Turque, by N. A. Henry, Esq.—THE AUTHOR.

Levé de Tagouss, by N. A. Henry, Esq.—THE AUTHOR.

Pudmini Upākhyāna, পদ্মিনী উপাখ্যান 2nd Edition, by Babu Rangolāla Banerjee.—THE CALCUTTA S. B. SOCIETY.

Official Catalogue of International Exhibition, Italy.—THE DIRECTOR OF THE ROYAL INDUSTRIEL MUSEUM OF TURIN.

Journal Statistical Society of London, Vol. XXVIII, Part 4.—THE SOCIETY.

Journal of the Agri-Horticultural Society of India, Vol. XIV, Part 2.—THE AGRI-HORTICULTURAL SOCIETY.

Jahrbuch der Kaiserlich-Königlichen Geologischen Reichsanstalt, Vol. XV, No. 3.—K. K. REICHSANSTALT.

Proceedings of the Royal Society, of London, Vol. XIV. No. 79, Vol. XV. Nos. 80, 81.—THE ROYAL SOCIETY OF LONDON.

The Calcutta Christian Observer, Vol. XXVII, Nos. 314, 315.—THE EDITOR.

Memoirs of the Geological Survey of India (Palæontologia Indica.) Vol. III. Parts 10 to 13.—THE GOVERNMENTS OF INDIA AND BENGAL, AND THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

Selections from the Records of the Government of Bengal, No. 42.—  
THE BENGAL GOVERNMENT.

Selections from the Records of the Government of Bombay,—New  
Series, No. 1, with a map.—THE BOMBAY GOVERNMENT.

Proceedings of the Royal Geographical Society, Vol. X, No. 2.—  
THE ROYAL GEOGRAPHICAL SOCIETY.

*Exchanges.*

The Athenæum, from December 1865 to February 1866.

The Philosophical Magazine and Journal of Science, Vol. XXXI,  
Nos. 206 to 208.

*Purchases.*

Numismatic Chronicles and Journal of the Numismatic Society,  
Vol. V, No. 20.

Trilingual Dictionary, by Mathurá P. Misri.

Atlas Ichthyologique des Indes Orientales Néerlandaises, by M. P.  
Bleeker, No. 20.

Zoological sketches, by J. Wolf, Parts 7, 8.

The Treasury of Botany, by J. Lindlay and T. Moore, 2 Vols.

The Comparative Anatomy, by W. Owen.

The Ferns of British India, being figures and descriptions of Ferns  
from all parts of British India, by Capt. R. H. Beddome, Parts 9 and  
10.

Pre-Historic Remains of Caithness, by Laing and Huxley.

Exotic Butterflies, by W. C. Hewitson, Part 57.

Sanskrit Wörterbuch, by O. Böhtlingk and Roth, Vol. V, Part 1.

Reeve's Conchologia Iconica, Parts 252, 253.

Indische Sprüche, by O. Böhtlingk, Vol. III.

Deutsches Wörterbuch, by J. and W. Grimm, Vol. IV, Part 3.

Kāvya Kalapa, काव्य कलाप by Heera Chánd, No. 4.

The Structure of Animal Life, by L. Agassiz.

Ten Years in Saráwak, by C. Brooke.

Dictionnaire Turc-Arab-Persan, by Dr. J. T. Zenker.

The Annals and Magazine of Natural History, Vol. XVII, Nos. 97  
to 99.

Comptes Rendus de l'Académie des Sciences, Tome LXII, Nos. 1  
to 10, with an Index for the year 1865.

The Edinburgh Review, Vol. CXXIII, No. 251.

Journal des Savants, December 1865 and January 1866.

The Quarterly Review, Vol. CXVII, No. 235, Vol. CXIX, No. 237.

Revue des Deux Mondes, from 15th December, 1865 to 1st March, 1866.

Revue et Magasin de Zoologie, Vol. XVII, Nos. 11, 12, and Vol. XVIII, Nos. 1, 2.

The Ibis, a Magazine of General Ornithology, Vol. II. No. 5.

PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR JUNE, 1866.



The last monthly general meeting of the Asiatic Society was held on Wednesday, the 6th instant.

W. L. Heeley, Esq., Vice-President, in the Chair.

The minutes of the last meeting were read and confirmed.

Presentations were announced.

1. From J. H. Crawford, Esq., a steel print portrait of Sir Jamsetjee Jejeebhoy, Bart.

2. From Moulavi Agha Ahmad Ali, through Professor Blochmann, a copy of "Muayzid-i-Burhan," a lexicographical work in Persian.

3. From Professor Goldstücker, Principal Editor, Sanskrit Text Society, a copy of the "Nyaya Mala Vistara."

4. From Capt. G. C. Depree, two Rubbings of a Pali inscription from a cave below the celebrated Ramgurn hills in Sirgooja. The following letter accompanied the donation :—

*Chota Nagpore, 6th May, 1866.*

MY DEAR HEELEY,

I have to-day sent off a book post packet, containing some rubbings of a Pali inscription cut in a cave below the celebrated Ramgurn Hill in Sirgooja, which was described by Col. Dalton, and published in the Asiatic Society's Journal in his "Notes of a tour, &c." Will you kindly give the said rubbings over to any savant, and send me particulars of the translation when one be made. You will see that in addition to the rubbing of each letter, I have subscribed the form of the letter carefully copied by hand: this will elucidate a doubtful impression. The second or western inscription I copied entirely, as my



hand became accustomed to the character, and the letters were all repetitions of those in the eastern inscription.

I have some water from the hot springs of Sirgooja, also some surface coal from the same locality. Will they be of any interest to the Society? If so, I will send them down.

Believe me,

Yours sincerely,

(Sd.) G. C. DEPREZ.

5. From J. Westmacott, Esq., specimens of canes, rattans, and a skull of a deer, from Jessore.

6. From S. Jennings, Esq., a specimen of a flying lizard, *Draco Dussumieri*.

The following gentlemen, duly proposed at the last meeting, were balloted for and elected as ordinary members :—

R. B. Smart, Esq.; Capt. J. Macdonald; T. W. Gribble, Esq.; C. S. J. Sime, Esq., B. A.; W. H. Bourke, Esq.; Barrister-at-Law; Dr. H. B. Buckle, C. B.; C. Brownfield, Esq.

The following gentlemen were proposed as ordinary members :—

A. Anderson, Esq., Fyzabad, proposed by Mr. Grote, seconded by Mr. Blanford.

M. H. Ormsby, Esq., proposed by Mr. Ball, seconded by Mr. Fedden;

J. H. Mathews, Esq., proposed by Mr. Locke, seconded by Mr. Blanford.

Letters from Capt. G. M. Bowie and J. C. Whishaw, Esq., intimating their desire to withdraw from the Society, were recorded.

In accordance with the amendment carried in the last meeting, the following papers were laid on the table :—"An address of the native nobility and gentry of Lahore and Umritsur, to the Hon'ble D. F. McLeod, C. B., Lieutenant-Governor of the Punjab, on the establishment of a College for the study of Oriental languages;" and His Honor's reply to the same.

The Secretary read the following memo. and a letter from the Hon'ble Mr. Macleod :—

*Memorandum on proposed Oriental University at Lahore.*

Having waited for a length of time, after replying to the Address of the Lahore and Amritsur gentry on the above subject, expecting to receive from their Committee a statement of the course they intended

to pursue, and finding that they made no move, I had an interview on the subject with Dr. Leitner, which ended in his requesting me to suggest to them in writing the measures which I would advise them to adopt.

I accordingly wrote to them, that there appeared to me to be only two methods in which Government could effectively co-operate with their Committee, viz. :

1. By so far modifying the rules of the Calcutta University, as to admit of purely Oriental Colleges being affiliated to it; appropriate honours and degrees being awarded to the foremost pupils of these Colleges, by a special machinery formed for the purpose; grants-in-aid being, at the same time, allowed to these Colleges;—or

2ndly. By so far modifying the Grant-in-aid Rules, as to admit of an Oriental University, such as the Committee propose to establish for the Punjab, receiving a grant-in-aid; and being otherwise dealt with as a grant-in-aid Institution.

The Committee, I find, unanimously preferred the latter, and within the last few days, I have received from them a Resolution in English\* to this effect, which I am now about to submit to Government.

I intimated to Dr. Leitner, that I considered the first of these methods, if practicable, to be by far the preferable one, and pointed out that if they did not at least make the effort to secure its adoption, they would subject themselves to the same charges, which they bring against the Anglo-Educationists, of being too exclusive. But they have nevertheless, as I have stated, determined to solicit the adoption of the second measure, in preference—despairing, it would appear—and not perhaps without reason—of obtaining any such concession on the part of the Calcutta University, as would meet their views.

Not being myself conversant with University matters, and being at a distance from the Head-Quarters of the Supreme Government, where the Calcutta University has been established, I feel that I am by no means competent to discuss this matter, or to advise in connection with it, successfully. And accordingly, if the members of the Asiatic Society who take a deep interest in the cause of Oriental Literature, and are more favourably circumstanced than I, will afford us the

\* A copy is subjoined.

aid of their advice and encouragement, they will be rendering us, at the present time, a very essential service.

D. F. M'LEOD.

*Lahore, the 22nd May, 1866.*

*Resolution of provisional Committee at Lahore, in regard to the relation which they desire to be established between the proposed Oriental University and the Government.*

The following Resolution was arrived at by the provisional Committee of the Oriental University, consisting of more than half of the supporters of the movement, at a meeting held on the morning of the 30th (thirtieth) of April, 1866 :—

“ That the supporters of the Oriental University movement consider it essential to the success of the objects they have in view, that the Oriental University should have a separate existence; that it should give every guarantee of proper financial management which the Government and the public may require; that the Grant-in-aid rules are the only ones which at present meet the case of the Oriental University, but that they should be in so far modified as to admit of the direct control of the Vice-Patron, the Governor-General; Chancellor (the Lieutenant-Governor); the Official Governor and the Council;\* which the dignity and vastness of the scheme, as a national one, essentially require.”

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The above papers having been read, the Chairman moved on behalf of the Council—“ That this meeting is desirous of placing on record its appreciation of the enlightened interest in the promotion of the study of oriental literature evinced by the Lieutenant-Governor of the Punjab, in his late reply to the address of the founders of the proposed oriental college at Lahore.”

Major Lees said that he desired to make a few remarks before the resolution was put from the chair, for two reasons—*First*, to correct an erroneous impression that had got abroad, that any apathy had been shown by the Society in noticing the movement that have been made in the Punjab for the encouragement of the study of the oriental

\* *Vide* rough draft of the Oriental University as published in the *Lahore Chronicle* and the *Punjab Educational Magazine*.

classics; and *second*, to point out the close connection that existed between the Society and the principles involved in this movement.

He had seen it stated, he said, in the public prints, with reference to the reasons assigned at the last meeting of the Society, for postponing the resolution now before the Society; that "it was negatived, because this Society, once the most famous in the world as the creation of Sir William Jones and supported by James Prinsep, Wilkins, Colebrooke, Leyden, and H. H. Wilson, had not even read the address, and the Council could not supply them with a copy." Mr. Macleod, it was added, must be ashamed of his would-be admirers, and it asked "if there was no genuine scholar in the Society to redeem its reputation?" Now he was prepared to show that there was no apathy on the part of this Society in this matter. The reply of the Lieutenant-Governor was first published in the *Lahore Chronicle*, very few copies of which journal reached Calcutta, and no sooner had notices of it appeared in other newspapers, than he had very many applications from members of this Society for permission to peruse it, but copies of this paper could not be obtained here. A resolution, however, somewhat similar to that now before the meeting, was at once drawn up and submitted to the President of the Society: but it was thought that more publicity should be given to the views of Mr. McLeod before any movement were made by the Society. He then had a copy of the Lieutenant-Governor's reply published in a daily paper; but it is known to all, that the official duties of every one in India are so arduous, that they have not always leisure to read all that appears in the daily papers, on the day that it is published, and thus, frequently, valuable information is lost sight of. He stated that he had immediately addressed several parties at Lahore, soliciting that a large number of copies should be sent to the Society; and that, finally, not obtaining them, he had addressed the Lieutenant-Governor himself. The Lieutenant-Governor, a few days ago, forwarded twelve copies of the address and his reply, and the memorandum which the Secretary had just read to the meeting; and the following extract from his letter will satisfy the meeting, that the delay in placing this document within their reach, and in bringing forward this resolution, was not attributable to any want of zeal in the cause Mr. McLeod had so ably advocated. Here Major Lees read an extract from a private

letter from Mr. McLeod, stating that the delay originated in the first translation of the address made being imperfect, and defective printing arrangements.

Major Lees said that he thought it would be travelling out of our way to notice the subject from an educational stand-point. That was a view of the question which, in his opinion, did not concern the Society. The Government of India were responsible for the education of the people of the country; and no doubt they were fully competent to deal with any points of difference that might arise in discussions regarding this important subject. They were undoubtedly the best judges of what were the proper *media*, through which education should be given to the natives of India, and whatever *media* they should decide upon adopting, it was no business of this Society or its members, to express any opinion on their suitability, or otherwise, for the purposes of attaining the object in view.

There was a point of view, however, in which he conceived that the encouragement of oriental Shasters pre-eminently concerned this Society—their bearing on historical, archæological, and philological enquiries; to render which of value, required of the enquirer an accurate and critical knowledge of the oriental classical languages. It was to these enquiries that this Society owed its foundation; it was these enquiries that first created a desire for the knowledge of oriental literature; and it was in this Society, and within these walls, that, when in 1835, the Government of India showed such hostility to the cultivation of the languages and literature of the East, as to direct that all support and encouragement should be withdrawn from them, so noble a stand was made against their policy in this respect, by Macnaghten, the two Prinseps, Sir E. Ryan, and other of its most distinguished members. Nor were the Government satisfied with legislating for the future. They went further, and directed that the printing of the long list of oriental works, which the Committee of Education had at the time in the Press, many of which were half, and some almost entirely completed, should be discontinued. He held in his hand a list of those works, thus consigned to sudden destruction, a few of which he would read. The first work on that list was the *Mahābhārata*, the Iliad of Indian literature; the second was the *Rājatarangini*, that work to which per-

haps of all others we were indebted for the most accurate account of the history of the earliest period of the North of India. Lower down in the list came the *Fatawa Alamgiri*, an Indian work on Mahomedan law and precedents, of such singular merit and such high reputation throughout every part of the East where the Mahomedan religion prevailed, that, some years ago, when travelling through Egypt, he was asked by the Shaikh-ul-Islam for a copy, as the most valuable gift he could bestow on him. The Hon'ble Justice Campbell no doubt was aware of the rare value of this noble work. Then follows the *Máya*, another Mahomedan law book, a commentary on the *Kifáyah* and the great Mahomedan authority in India, the *Hedáyah*; the *Rámáyana*, the *Surya Siddhánta*, and many other equally important works on Law, Rhetoric, and Logic. All these valuable works, it was the desire of the Government of India of the day, to consign to destruction; an act, to use the words of our most distinguished Secretary, James Prinsep, "not far out-done by the destruction of the Alexandrine library itself." Such was the opinion of this Society in those days; and many members of the Society in these days will perhaps hear with surprise, that these valuable works were considered "waste paper" by the Government of India. On the fiat for their destruction having gone forth, the Society at once memorialized the Government to prefer their humble prayer to the Home Government for a special grant to be appropriated exclusively to the support of oriental literature; they further asked to be permitted to continue the printing of the works which had been stopped, soliciting some pecuniary grant to aid them in carrying out the undertaking. But the Government of India declined to solicit any special aid from the Court for the promotion of the object the Society had in view; and their reply on this and the other points is so remarkable that I will read it to the meeting. "The Government having resolved to discontinue, with some exceptions, the printing of the projected editions of oriental works, a great portion of the limited Education Fund having hitherto been expended on similar publications, to little purpose but to accumulate stores of waste paper, cannot furnish pecuniary aid to the Society for the further printing of those works, but will gladly make over the parts already printed either to the Asiatic Society, or to any other Society or individuals, who may be disposed to complete the publica-

tion at their own expense." The Society did not, however, allow the matter to rest; but memorialized the Court of Directors on the subject; and bringing all the influence, both official and private, it could command, to the support of the cause it so earnestly and so ably advocated, succeeded finally in obtaining that grant of Rs. 500 a month which has been mainly instrumental in enabling it to print that large series of very valuable oriental works, which have been published in the *Bibliotheca Indica*. Indeed so faithfully has the Society discharged its trust to the oriental world in this respect, that it was remarked in a late Annual Report of the *Société Asiatique*, that never was a grant for similar purposes more admirably administered.

"This Society has ever been the faithful and solitary guardian of oriental literature and oriental studies in India, and had it not been for its existence, it is difficult to say to what extent they would have been neglected. It was the cradle, I may say, of all the knowledge which the West of late years has obtained from the East; for it is to the early efforts of its members, that the oriental languages owe the important position they have now attained in Europe. It is since the study of the Sanskrit language has been developed, that language itself has attained to the dignity of science, and while such value is attributed to the oriental classics in the West—while scholars pursue their study with such enthusiasm and such success, it is melancholy to observe the decay of oriental learning in its natural home, proceeding so steadily and so surely that there is some fear that soon we may look for an oriental scholar, European or Native, and look in vain. Most of us sitting round this table are Government servants, but we do not sit here as such, but in a higher capacity. We are here, rather, cautiously to watch its action in all matters connected with those high objects we have in view, and respectfully to express our opinions on their effects, as they appear to us to be injurious, or the contrary, to the progress of ancient literature and science. It is notorious that the Government of Great Britain does least of any of the great Governments of Europe for the direct encouragement of science. Almost everything that is done in England for the advancement of science, is accomplished by private Societies—Societies such as that, which we here represent. When

Government there, can be brought to move or to aid in any movement having for its object the attainment of a scientific end, its cooperation or assistance is almost invariably obtained through the pressure of some of those numerous Societies which are the pride of our country; and it is no cause for wonder, if such is the case in England, that the same rule should hold good in this country, and that we should find it necessary occasionally to remind the Government of India of the duties it owes to the important interests we hold in our keeping."

In conclusion, he trusted that he had made it clear to the meeting, how intimate was the connection of this Society with the movement that was now taking place in the Punjab, and how deep an interest it had in its success. He gave it as his opinion that the neglect of oriental studies in India had now reached the culminating point, and that therefore it was incumbent on this Society to give to the new movement its most cordial and most hearty support.

Mr. Campbell said—"I entirely concur in thinking that this Society cannot take upon itself to express, as a body, any opinion on questions of a properly Educational and Departmental character, and on that account I have somewhat regretted that, going beyond the address, which is the subject of the motion, other papers raising such questions should have been read. I would also especially deprecate our saying or doing anything which should seem to take us back to the old divisions of Anglicists and Orientalists. I have felt that caution is necessary in regard to one or two of Mr. Macleod's expressions which seem to point that way, the more so as the learned mover of the proposition before us also used some such expressions. While admitting that there is great force in much that has been said by Major Lees, I can in no way assent to those parts of his observations, which would appear to make us partizans in those ancient and almost forgotten battles of the year 1835. As regards all that then passed, I would say, 'Let the dead bury their dead.' Even supposing that the Government of those days were the rude and barbarous Goths that Major Lees represents them to be, (the name of the chief offender being, it appears, that of Macaulay), he has also told us that the work of Oriental Publications has not been altogether neglected. Barbarians as they were, the Government made a pecuniary grant for the pur-



pose to those better qualified than themselves, viz. to this Society, which has used it with that excellent effect which Major Lees has so well described. I would have it then to be distinctly understood that we neither take the part of the Orientalists against the Anglicists, nor make the praise of one Governor the occasion of blaming any other Governors living or dead. I think that we should confine ourselves strictly to the compass of the resolution before us, viz. to express in general terms our thanks to Mr. Macleod for promoting by his address the study of Oriental Literature; having regard not to particular expressions, but to the general tone and tenor of the address. I have now carefully read it, and thinking that, particular phrases apart, it is in the main admirable and excellent, I wish to give my humble support to the motion before the meeting. For myself I have no doubt that the Educational movement of 30 years ago has resulted in great positive good. I think that the study of English, and of all that English unlocks to the natives, has been attended with the greatest advantages both in an Educational and in a Political point of view. I believe that if Education had been left to the Sanscrit and Arabic Colleges, we should have been worlds behind our present point. No one in Calcutta can look round on the many educated and intelligent natives: no one can see the thorough, lively, and healthy interest taken by the native youth in many discussions in the English language, without being convinced that there has been an enormous gain. At the same time I think it cannot be denied that there are two sides to the picture—that there are certain drawbacks to the English system of education. In the first place, it is evident that the means available in Calcutta are not and probably for generations will not be available in most parts of the country. For many a long day, the Calcutta system cannot be general; and it is most undesirable that meantime the great body of the native youth should be shut out from European learning. Again, nothing can be more forcibly or better put, than the argument of the learned member Bábú Rájendra, in support of his own view of the case. It seems clear that if a man must spend several years of his life in acquiring a foreign language, as the mere vehicle of knowledge, the field must be very much narrowed. So again as respects the Educational results of the present system, there is, I think, a good deal of truth in these

passages of Mr. Macleod's address, which I will read. He says, "Notwithstanding some brilliant exceptions, the great bulk of our scholars never attain more than a very superficial knowledge either of English or of the subjects they study in that language, while the mental training imparted is, as a general rule, of a purely imitative character, ill-calculated to raise the nation to habits of vigorous and independent thought;" and "The youths who are attracted to our schools and colleges are, for the most part, those who desire only to qualify themselves for public employ, or to acquire a colloquial knowledge of English, seldom or never including youths of those classes who are used to devote themselves wholly to the cause of learning." These observations very much tally with those made by another distinguished man and great thinker, at the late meeting of the Calcutta University, by the Vice-Chancellor, Mr. Maine. He also dwelt on the want of masculine vigour—on the *imitative* character of the present Native Education. He told the students that their acquisitions were too much an effort of memory, and too little an exercise of the reasoning faculties, and he recommended the greater cultivation of exact sciences, as distinguished from mere English literature. Now it seems evident, that the acquisition of a strange language must be in the main a severe and long continued effort of memory, and that there now stands in the way a great obstacle to the cultivation of those European sciences which Mr. Maine recommends. Such are the drawbacks as respects the natives. Another and, I think, no inconsiderable drawback of the present system is in its effects on Europeans. It seems to me to be indisputable that, during the last quarter of a century, there has not been among Europeans in India the same Oriental zeal and learning as formerly. We have made comparatively few such brilliant discoveries as illustrated the generation which commenced with Sir William Jones: we have even to a great degree neglected to work those rich mines of knowledge opened out by our predecessors, those splendid gold-bearing veins which we inherited from them. Major Lees has justly pointed out, that now more than ever their labours are bearing fruit in Europe. Now more than ever is it seen that the key to the history of language, to the history of man, has been found in India. But I lament to say that progress in India itself has not of late years kept pace with the vast importance of the subject. I have

lately had occasion to look over many papers, and I could not but be struck with the profuseness of Oriental knowledge to be found in earlier as compared with later years. To take one small example; I cannot believe that if, in the beginning of the century, we had been as intimate with Cashmir, as we have been during the last twenty years, we should have known so little of the language.

"The fact seems to be, that we have of late years to a great extent taken up this position, that the natives must come to us; we won't go to them. And having so entrenched ourselves, as it were, we have little in common with the natives most learned after their own fashion. As Mr. Macleod puts it, "The most cultivated minds amongst our race and yours have remained but too often widely apart, each being unable either to understand or to appreciate the other." In truth, I fear that in some respects the gulf between the two races is rather widening than narrowing. The old intercourse in native fashion becomes less. The men whose minds are saturated with English classics, justly feel that they are above intercourse on the old unequal footing of European ruler and Native ruled; and at the same time they have too seldom really acquired that substantially English tone of mind, that renders possible frank and cordial intercourse after the English fashion.

"Without then in any way putting it as opposed to English learning, I think we must all join in considering that every effort towards Oriental and vernacular learning, is in itself a good. So far from such learning being opposed to English learning, I believe that it is just the contrary. As Railways have not superseded roads and carriages, but, on the contrary, these latter are more than ever used as feeders to Railways, so also I believe that the use of the vernacular languages, as the medium of communicating European learning on a broader and more general scale than is now possible, and the contact of English with Oriental scholars in the use of the language of the latter, would create and whet an appetite for those larger stores of learning which English only can afford. It seems therefore to me that in the present stage of our progress, when so many natives have so good a knowledge of English, and the higher branches of education are so exclusively English, there is also much room for the encouragement of Oriental learning in two ways: first, by translating into the Vernacular books of European

learning, science, and general information, to a very much greater extent than has yet been done ; and secondly, by renewed efforts on the part of men of European learning in India to acquire both the Vernacular and the learned languages of the East, to bring themselves into contact with the most learned and intelligent men of Oriental education, and with their aid to work out the stores of knowledge and the passages in the history of mankind which lie ready to the hand of the eager seekers.

"In this view then, taking Mr. Macleod's address as a whole, I think that we properly owe him warm thanks for his encouragement of Vernacular education and Oriental literature, and may without fear commit ourselves to, as it were, an abstract proposition that these objects are in themselves excellent, without in any way pledging ourselves to anything opposed to any other system or to any educational details. I shall vote for the resolution before the meeting."

The Chairman said that in 1835 there had been two parties, Anglicists and Orientalists, in the great Educational discussion of the day. Mr. McLeod was one of the latter party, but nevertheless those who supported this resolution, would not thereby pledge themselves to any partisan views. The resolution merely recognised the encouragement given Mr. McLeod to the study of oriental languages, and such encouragement it was the duty of our Society also to give. We did not by this Resolution bind ourselves to adopt all the views of Mr. McLeod, but only so far as the terms of the Resolution specify. He would now put the Resolution to the vote.

The votes of the meeting being taken, the Chairman declared that the Resolution was carried unanimously.

Mr. Campbell then said that, though the motion had been carried, and he was somewhat out of order, perhaps the meeting would allow him to make one or two observations on a point which had escaped him. He had marked and read some passages in Mr. McLeod's address in which he very much coincided, but there was one more passage which he had marked, in respect to which he had the misfortune to differ from Mr. McLeod, and entertaining a somewhat strong opinion on the subject, he had wished to take the opportunity of saying so. Mr. McLeod said, "I would urge you to adhere to oriental models, whether in the designation of your Institution, the degrees

or honors they may confer, or the scientific terminology they may adopt, rather than unnecessarily import terms from European lands, which last appears to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own." Mr. Campbell went on—"This is the passage from which I particularly dissent. It seems to me that difference of language is in itself an evil, that if we cannot soon have a *lingua franca* common to all, we should at least study rather to approximate than to draw farther apart. It is, I think, a great advantage of the vernacular languages of India, that they have a singular facility for adopting and incorporating useful foreign words. Already many English words have been incorporated in the language of the country. It used to be said that if our rule ceased, we should leave nothing behind us but empty bottles. We should now leave many material monuments. But more than that, I believe that we should also leave in the language distinct traces of our presence. Well, in respect of scientific terminology, of all things, uniformity of nomenclature is the greatest possible object, and it appears to me that whenever we would introduce into the vernacular languages a scientific term not before known to those languages, it is infinitely more convenient to import the English or European term, than to invent some horrible new name, just as strange to natives, and quite unintelligible to Europeans. When a word existing in the vernacular is well known, and correctly expresses the required meaning, by all means retain it: but when there is no such word, to coin one by the use of complex Sanscrit compounds and Arabic derivatives, seems to me to be an affectation of Oriental purism at the expense of practical utility, and one, I may add, attended with no grace whatever, but with the most crack-jaw results."

Major Lees said that at this late hour of the evening he was unwilling to prolong the discussion, and that as he had opened it, perhaps he might be permitted also to close it. It had been his desire, as he before said, to remove the discussion altogether from the arena of educational policy, for reasons before stated, and because he was aware that, as regards the educational question, there was a good deal of party feeling; but there ought not to be, and there could not be any party feeling regarding this question from the stand-point from

which he viewed it—its bearing on the advancement of literature and science. He had employed no ingenuity in the remarks he had already addressed to the meeting, his object being simply to place before the meeting, as clearly as he could, the position this Society had previously occupied with reference to the question that had come under discussion, and the interest they had in supporting to the utmost of their power the new impulse which was about to be given to the cultivation and study of the Oriental classical languages in the Punjab. As to the Educational views of the Lieutenant-Governor of the Punjab, they had better not discuss them here; they were not involved in the Resolution before the meeting, and they were foreign to the business of this Society. Mr. Justice Campbell however, he said, had fallen into error, in saying that if the Government of India had discontinued the publication of Oriental works, it had done better, it had appropriated a handsome grant for the purpose, to be administered by the most competent body to undertake this work. The Government of India had done nothing of the kind. The pecuniary aid which had been granted for the special purpose of publishing Oriental works had been obtained by the persevering exertions of this Society, not through any aid or support it received from the Government in this country, but in spite of its opposition.

The Chairman thought that such a point as that mooted by Mr. Campbell was quite within the province of our Society to decide. This Society stands in a position somewhat analogous to that of the French Academy. It is the one body in India competent, as embracing a knowledge of the requirements of science, together with a knowledge of the genius of the oriental languages, to give an opinion which cannot fail to carry weight in all quarters. The Society has no immediate connexion with education, but few educationalists would set themselves in opposition to a view expressed by the Society on such a point as this. For himself, Mr. Heeley continued, he did not profess to have studied the question. He knew only that scholars, such as the late Dr. Ballantyne, had thought it quite possible to form a technical language from purely Sanscrit roots, which should be equally expressive with the technical language derived from Greek and Latin roots which prevailed in Europe, and would be much more in accordance with the spirit of the people. The study, in the ver-

vernacular, of a science of which all the terms are foreign, would be almost an impossibility. He concluded by inviting Mr. Campbell to draw up a proposition in terms, for submission to the Society's next meeting.

Mr. Norman doubted whether it was desirable that the Society should be asked to commit itself to the expression of an opinion on two subjects brought forward this evening. The first touches a point of great difficulty, viz. whether learning is better conveyed to the natives of this country in English or the vernacular. All scientific works are written in European languages, and it is by the medium of English alone, that such subjects as those of modern science can at present be studied. In the vernacular, there is indeed a certain amount of imaginative literature, grammar, and metaphysics, which may therefore be imparted without requiring a knowledge of English, but that is almost all: and it is a great question, whether the advantage of opening to the Native the vast storehouses of European science does not infinitely outweigh the disadvantage of his having to acquire the rudiments of his knowledge in a strange tongue. The second discussion is on a point on which no opinion of the Society can be of much value, because it can have but little effect on the result. He quite agreed with Mr. Campbell that a scientific terminology should be uniform, indeed as far possible a universal language; but were any man of mark, as a man of science, to arise among the natives, he would not be likely to obey the dictation, or even the lead of the Society; but would probably adopt a terminology of his own, and his teaching would be followed by his countrymen quite irrespective of any resolutions of this Society.

Mr. Campbell said that he had not intended any motion on this subject, but he entirely agreed with Mr. Heeley, in thinking that the questions of the terminology was one eminently within the province of this Society. "It may be a matter of comparatively little importance, from what language a technology is taken, but it is of the greatest importance that it should be uniform. You may have half a dozen equally good terms for the same thing, but if all are used, great confusion results. What is wanted, is some authority to decide in favour of one or the other. Now in India, what body is so competent to decide on a matter of this kind as the Asiatic Society? What

body would carry one tithe so much weight? We assume no despotic authority. It may be, that some Hindoo or Mahomedan greater than Linnaeus may start up and impose on us a Sanscrit or Arabic technology which may scatter ours to the winds; but meantime I believe that the authority of the Asiatic Society would carry the very greatest weight, and would probably be respected in most public and private Institutions. The matter is one of very great importance, and it must be remembered that Mr. McLeod has distinctly, by the letter which has been read to me, asked our advice. On the purely Educational questions we cannot take upon ourselves to give advice; we have only done what we can, by expressing our admiration of Mr. McLeod's efforts in the cause of learning. But as respects the question of a scientific terminology, I think that we may properly respond to Mr. McLeod's invitation, by advising him one way or other. So strongly do I feel on the subject, that I beg to give notice of the following Resolutions to be moved at the next meeting. "That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely Educational matters on which Mr. McLeod has done them the honor to consult them, they would venture to express the opinion that it is desirable to adopt for general use, the European scientific terms, for which equivalents are not found in the vernacular languages."

The Council reported that the following gentlemen were elected Trustees for the Indian Museum.

Dr. S. B. Partridge; Dr. J. Fayer; W. S. Atkinson, Esq.; H. F. Blanford, Esq.; for the Society.

The Council reported that A. Grote, Esq. has been elected a member of the Library Committee.

The Council also reported that Baboo Protap Chunder Ghoshe is appointed Assistant Secretary *vice* Baboo Lalgopal Dutt, who has resigned.

The following letter was read—

From G. Fergusson, Esq., containing some remarks on the tower at Boodh Gya.

"Since I last wrote you, I have looked carefully into the evidence about the age of the Tower at Boodh Gya, and see no reason to doubt the evidence of the inscription given (J. A. S. B., Vol. III. p. 214,)



that the building *we now see* was erected in the first year of the 14th century. From its architecture, as shewn in the photograph you have sent me, I would have been inclined to make it even more modern; and the evidence of the "arches," as explained by Mr. Horne, is to my mind quite conclusive that it was erected long after the Mahomedan conquest. Had it been built by true Hindoos, they would not have been found there even then, but the Burmese never hated the arch so cordially as the true Hindoo. My impression of its history would be that in Asoka's time, or between that and the Christian era, the Bo tree was surrounded by a rail of the Sanchee type. At some subsequent period a "stupa" was erected, probably of a tower form; it may be by Amara, and the Lehras may be of his time; but I feel nearly quite certain that the arches were inserted and the tower took its present form in the beginning of the 14th century."

The following communications received were announced:—

1. From the Hon'ble G. Campbell "Ethnology of India" in 6 parts."
  2. From Baboo Gopee Nauth Sen, An abstract of the hourly meteorological observations made in February last.
  3. From Major B. Ford. "Report of Committee ordered by the Superintendent of Port Blair to proceed to Barren Islands, to enquire into the practicability of thence supplying the settlement of Port Blair with fodder, as well as to note any other product of the island that may be of scientific interest, or of benefit to the settlement."
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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,  
FOR JULY, 1866.



The Monthly General Meeting of the Asiatic Society of Bengal was held on Wednesday the 4th Instant.

A. Grote, Esq., senior member, in the Chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From Major B. Ford, a box of mineral and vegetable specimens from Barren Island; the paper announced at the last meeting accompanied the donation.

2. From V. J. Carey, Esq. a sketch of a perforated stone found on a "Chaboutra" at Jubbulpore. Plate I.

The following letter accompanied the donation.

*"Jubbulpore, 4th June, 1866.*

"DEAR SIR,

"Since my writing to you in January, I have found four or five 'Celts' of the smooth later stone age, and also two of these perforated stones. A sketch of one I send you, natural size. I found these on a 'Chautra' or Chaboutra, on which they place stones for the worship of 'Mahádeo.' On these 'Chautras' I find 'Celts,' and about this part of the country Celts are not found except on them, or may be a chance one in a temple.

"Several of these perforated stones have been found by different members of our staff along the line. Each have their own interpretation. I fancy they are mauls or hammers. I had one as small as

this.\* Kindly let me have your idea of what they were meant for and oblige

"Yours faithfully,

(Sd.) "V. JAMES CAREY."

Mr. Blanford said that the sketches were those of stones similar in character to specimens that had been found accompanying the relics of the later stone age in Europe; and also those of the bronze age; but the latter were frequently of a different material, viz. earthenware. They were regarded by archæologists as spindle-whorls, *i. e.* weights attached to a stick to give it sufficient rotatory inertia to spin fibres, whether for weaving or net-making. Some archæologists thought that the earthenware specimens were also used as weights for nets. It was interesting to find these in India, as well as the flint hatchets of the smooth type. But it was much to be desired that the circumstances under which these relics occurred *in situ* could be ascertained. These early antiquities were, however, exciting much attention in Central India, and he hoped that before long some evidence on this head would be brought to light. He had strong hopes that the exertions of the Nagpore Society would facilitate this; Mr. Carnac, the Secretary, took much interest in these discoveries, and he believed that others besides that gentleman and Mr. Carey were giving their attention to them.

3. From Rájá Kálý Krishna Báhádoor, a copy of a "General list of native implements, &c. for the Paris Universal Exhibition for 1867."

4. From S. Jennings, Esq., a specimen of an *Aprosmictus scapularis* (King Parrot) of Australia.

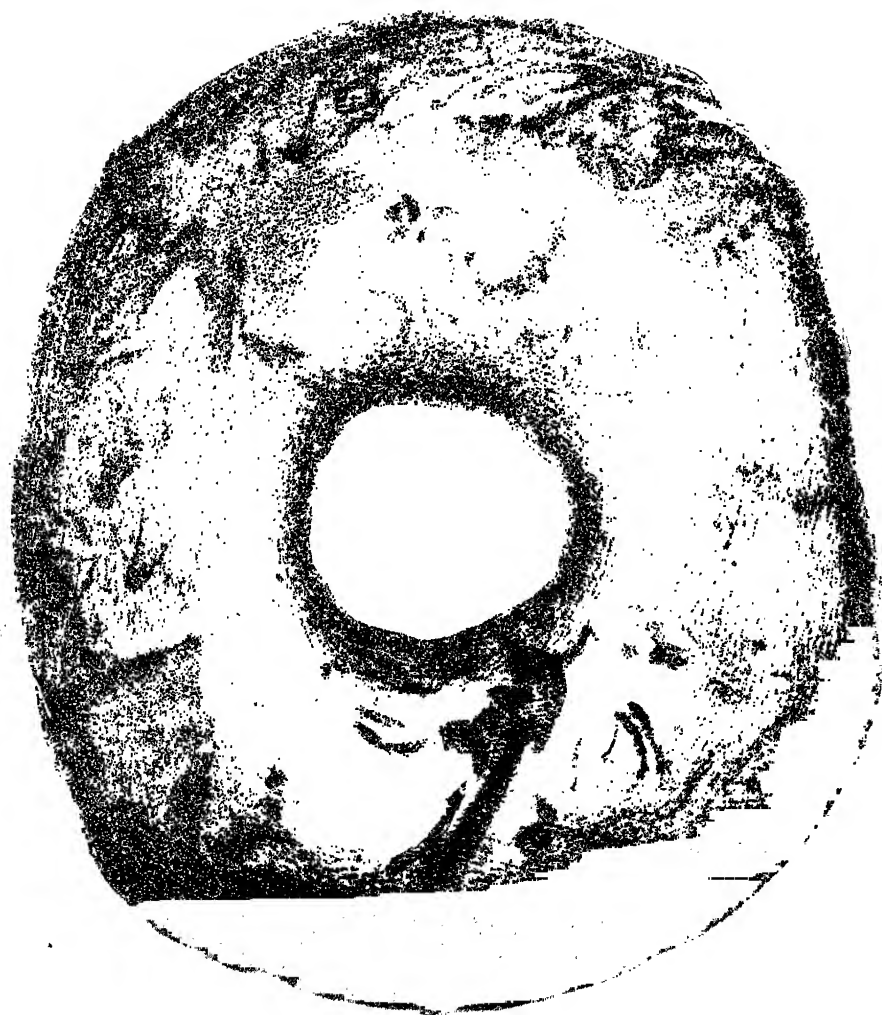
5. From W. C. Taylor, Esq., C. S., a large collection of Insects, chiefly from Darjiling.

6. From D. Waldie, Esq. some pseudomorphs of Peroxide of Iron after Pyrites.

With reference to this presentation, the donor made the following remarks:—

"The mineral crystals presented to the Society are pseudomorphs resulting from the conversion of iron pyrites or bisulphide of iron into peroxide of iron, and are interesting from exhibiting the change in

\* Referring to a pen-and-ink sketch of a stone of the same form as that figured on Plate I. but measuring only 2 inches in diameter and  $\frac{1}{2}$  inch in thickness,



STONE SPINDLE — WHORL

from a CHANTRA\* near JUBBULPORE.

Gifted by H. Niven, Surveyor General's Office, Calcutta, Aug. 1866



various stages of its progress. Simple oxidation would convert sulphide of iron into sulphate of iron, and the only way of accounting for the further change into peroxide is by the action of bicarbonate of lime, or even bicarbonate of magnesia, or of the alkalies in presence of excess of carbonic acid and water, by which the sulphuric acid is removed in combination with the earth or alkali. By such a process peroxide of iron would be left in combination with water. This is the explanation given by Bischof in his *Chemical Geology*, (Cav. Soc. Trans., Vol. III., p. 452), in which he cites observations corroborative of the theory, and also notices the observations of others (Ullmann and Sillem) in which red hematite or anhydrous peroxide was found completely or partially in place of brown hematite or the hydrated peroxide, giving it as his opinion that the production of red hematite takes place subsequently to that of hydrated peroxide, and not directly from iron pyrites.

"These crystals exemplify these changes. Some of them consist of peroxide of iron only, with some water and a little siliceous earth: one crystal gave 2.0 siliceous, 4.78 water, and the remainder peroxide of iron. As brown hematite contains 14.76, and another hydrate 10.36 p. c. of water, the above is evidently a mixture of hydrated and anhydrous peroxide. Some of the crystals contain a few small bright specks of sulphide of iron, others a large hard nucleus of the same. One crystal when broken was observed to be partially hollow, and the matter in the centre was soft and of an ochry appearance, very probably in the state of subsulphate. They are in the state of well formed isolated cubical crystals. It would have been interesting to have known the particulars of their locality and probable origin, and application was made for these particulars, but without success. I only learned that they were found in India, on the surface of the ground."

The following gentlemen, duly proposed and seconded at the last meeting, were balloted for, and elected as ordinary members.

A. Anderson, Esq.; M. H. Ormsby, Esq.; J. H. Mathews, Esq.  
Letters from J. Strachey, Esq., C. S., J. M. Scott, Esq., J. C. Sarkies, Esq., Baboos Jodunauth Mookerjee and Kally Prosono Dutt, intimating their desire to withdraw from the Society, were recorded.

The following letter from E. Thomas, Esq. and notice of an address delivered by the writer at the Royal Asiatic Society, were read.

"10th May, 1866.

"MY DEAR GROTE,—I enclose you a slip report of a small lecture which I gave on the spur of the moment (in default of other papers) at the Royal Asiatic Society.

"The subject is one of considerable interest, and it is singular that all and every bit of evidence should tend to the same end. The result, however, is only exactly what we were fully prepared for, *i. e.* that the Aryans left their early homes long *after* the other nations of the world had achieved a large amount of civilization. The only point of peculiar interest to *us* Indians is the course of the Aryan alphabets downwards. I am quite clear about the Bactrian adaptation from the Phœnician, and am equally convinced of the originality of the conception of the Lât alphabet, which was *primarily* designed for Dravidian or Scythic forms of speech. I have been collecting proofs of this for some time past, and each fresh enquiry the more and more confirms my early impression! But I am anxious to learn all that can be said against my position, which I am, however, quite prepared to abandon on proof of error. If you can elicit any discussion on the point, it may enlighten us all! and your observations will reach England long before I shall be in a position to *print*, even if I do *write* anything beyond what I have already *said*!

E. B. THOMAS."

The following is the printed extract enclosed in Mr. Thomas's letter:—

"The following are the positions laid down by Mr. Thomas as the result of his palæographical investigations:—The Aryans invented no alphabet of their own for their special form of human speech, but were, in all their migrations, indebted to the nationality amid whom they settled for their instruction in the science of writing. 1. The *Persian Cuneiform* owed its origin to the Assyrian, and the Assyrian Cuneiform emanated from an antecedent Turánian symbolic character. 2. The *Greek* and *Latin* alphabets were manifestly derived from the Phœnician. 3. The *Bactrian* was adapted to its more precise functions by a re-construction and amplification of Phœnician models. 4. The *Devanâgarî* was appropriated to the expression of the Sanskrit language from the pre-existing Indian Pâli or Lât alphabet, which was obviously

originated to meet the requirements of Turánian (Drávidian) dialects. 5. The *Pehlvi* was the offspring of later and already modified Phœnician letters; and 6. The *Zend* was elaborated out of the limited elements of the Pehlvi writing, but by a totally different method from that followed in the adaptation of the Semitic Bactrian. Mr. Thomas then proceeded to advert to the single point open to discussion, involved under the fourth head, tracing the progress of the successive waves of Aryan immigration from the Oxus into the provinces of Ariana and the Hindú Kush, and the downward course of the Pastoral races from their first entry into the Punjáb, and the associate crude chants of the Vedic hymns, to the establishment of the cultivated Brahmanic institutions on the banks of the Sarasvatí, and the elaboration of Sanskrit grammar at Taxila,—connecting the advance of their literature with the simplified but extended alphabet they constructed in the Arianian provinces out of a very archaic type of Phœnician, and whose graphic efficiency was so singularly aided by the free use of birch bark. This alphabet continued in use as the official writing under the Greek and Indo-Scythian rulers of Northern India, until it was superseded by the superior fitness and capabilities of the local Páli, which is proved by Asoka's scattered inscriptions on rocks and monoliths (*Láts*) to have constituted the current writing of the continent of India in B.C. 250; while a similar, if not identical character is seen to have furnished the prototype of all the varying systems of writing employed by the different nationalities of India at large, from Sind to Ceylon, and spreading over Burmah, till the Indian Páli meets Chinese alphabets on their own soil in Annam. In conclusion, Mr. Thomas pointed out the importance of the discoveries of Norris and Caldwell, derived from completely independent sources, regarding the Scythic origin of the introductory Indian alphabets."

Mr. Campbell said he would gladly have left the honour of the Hindus in the hands of the learned Bábu opposite, but in default of any one more competent, he would make one or two observations. It appeared to him that the Nagaree character was very much adapted to the Sanscrit and Hindée languages. We found how different it was when we try to express these tongues in Roman or Persian characters. If then the Nagaree character was not invented for



Sanscrit, it must have been adapted for its use in a remarkable way. He did not feel competent to take upon himself to deny that the character may have been borrowed from others. But as respects the original inventors suggested by Mr. Thomas's theory, he felt inclined to protest against the loose way of using the terms 'Dravidian,' 'Turanian,' and 'Scythic,' as if synonymous. He was aware that Max Müller had classed two-thirds of the world under the broad designation of 'Turanian,' but he found that other great authorities objected to the classification as too sweeping, and as including in a common term several widely different families. Whoever may have first invented letters, he felt great difficulty in believing that the discovery was due to the Dravidian ancestors of the barbarous Gonds and Khonds, Dhangars and others, who, speaking ancient Dravidian tongues, were themselves to this day without a written language. On the whole subject, we were still very much in the dark. If he had himself a half-formed theory, it inclined to this: that if in fact the Hindus came in contact with another civilisation already possessed of a Pāli language and letters, the latter should rather be attributed to some old Western immigration by sea, in the days of the most ancient Egyptians and Phœnicians and their contemporaries. Max Müller had made clear to us the character of the Arian religion. The gods of the Arians are above, and they descend to the earth in occasional incarnations. But there is still very prevalent in all the west of India, and in several forms, another religion, that worship of the procreative power of the Phallus or Lingam, which seems to be the earliest development of the modern idea of the natural progression of type, and which the Buddhists and Jains have carried forward by their system of gradual perfectibility, raising man from below nearly to the rank of a god. That belief in natural progress, from below upwards, seemed to him (Mr. Campbell) to be in opposition to the Arian beliefs in gods descending from above: they were two widely separate types of belief, and his suggestion would be, that any civilisation and any letters which preceded the Hindus in India, may have been brought in from the west, in company with the worship of the Phallus and the doctrines which have sprung from it. But in truth we seemed to be as yet but on the threshold of knowledge of the earlier inhabitants of the world. The Society must be greatly indebted to Mr. Thomas for his

communication, and it was most desirable that it should be circulated and farther discussed.

Bábu Rájendralála Mitra said he had not well heard the paper, and could not therefore then enter in detail into the question involved in it, which was one of great importance. The historical evidences which had hitherto been collected, all tended to show that the Arians were one of the earliest civilized of the human races, and that they brought their civilization and social arts from the plateau of Central Asia to the plains of India; and as one important element of civilization was the alphabet, it was difficult to suppose that they borrowed it from the aborigines of the south, whom they described as Dasyus, barbarians and monkeys, and who unquestionably were in a state of mental culture far below that of their conquerors.

The Rev. Mr. Banerjea thought that the papers just read should be circulated. He had no great acquaintance with the Dravidian languages, but had made several visits to Madras, and had thus gained some knowledge of their alphabets. He thought that Mr. Thomas's theory should have been more precisely stated. Which alphabet did he mean—the Tamil or the Teloo-goo? The former was as imperfect as the latter was irregularly exuberant. The Tamil admitted no sounds such as *kh*, *gh*, *bh*, *dh*, and had no *distinctive* character for *g*, *d*, or *b*, the letters *k*, *t*, or *p* doing duty for them in certain positions. The Teloo-goo's exuberance itself was a proof of its being a descendant of Sanscrit—the additional letters standing simply for rude aboriginal sounds. It is not probable that the rich Arian alphabets were derived from one so poor as the Tamil. The Teloo-goo is evidently an offshoot of Sanscrit. Moreover the aborigines of the country, the Gonds, &c., have no alphabet.

He would not, however, go so far as to say that the invaders had borrowed nothing from the aborigines. On the contrary, he thought that some portions of their worship, especially that of Shiva, had been so adopted.

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In accordance to the notice given at the last meeting, the Hon'ble Mr. G. Campbell moved—

“ That while the members of the Society regret that they feel themselves precluded from expressing an opinion on the purely educational

matters on which Mr. McLeod has done them the honour to consult them, they would venture to express the opinion that it is desirable to adopt for general use the European scientific terms for which equivalents are not found in the vernacular languages."

In introducing the motion, he observed as follows :—

"I would beg to call attention to the exact words of my motion. I direct it solely and entirely to terms which are not found in the vernacular languages. I do not suggest the substitution of European for vernacular terms, where the latter exist: I only say that when there is no vernacular word to express the meaning of anything or any idea which education and civilisation have introduced into India, it is better simply to adopt a widely known and easily used European term, than to coin an artificial and affected new word from the Oriental classical languages. When the subject was mentioned at the last meeting, it appeared that some gentlemen might doubt the propriety of my motion on one or other of two grounds—first, several gentlemen seemed to think that the subject was not one proper to be discussed and determined by this Society; and a smaller number of gentlemen seemed to prefer the coining of Oriental to the adoption of European terms. As respects the first objection, I repeat that while we can dictate to no one, it appears to me that, to secure uniformity of practice, nobody is likely to exercise such moral weight as this Society. And it is no mere theory that I uphold. It is a matter of pressing practical importance. Sir D. Macleod speaking as Lieutenant-Governor and officially addressing the representatives of the founders of the first Oriental University established in India, has deliberately urged them to eschew European terms, and to adhere to Oriental models in their scientific technology. This advice is almost a command, and once adopted, it may long be thought necessary to follow it. I doubt not that, whatever may be said, the greater convenience of simple and universal European terms, and the great preference for them exhibited by the Native Public, will eventually lead to their adoption; but meantime there may be great divergence and discordance, and much harm may result. Sir D. Macleod himself has sought our advice, and the Council has placed before us the address which contains his emphatic declaration in favour of Oriental terminology, and made it the subject of a vote of thanks. There is no doubt

that the address tends very much to the ideas of the Orientalist party, and that we sail very near the wind in thanking Sir Donald Macleod for it, without pledging ourselves to that side of the question. But having done so, and our advice having been asked, I think we may well go on to say whether we do or do not concur in certain Ultra-Orientalist advice on a subject, falling, as I conceive, very much within our province.

"On the merits of my proposition, it seems to me that in scientific terminology, of all things, uniformity of nomenclature is most desirable. Ideas wholly new to India must be represented by words new to India. But the vernacular languages have a singular genius for adaptation, and the people are most ready to adopt, and do daily adopt, the convenient terms which we offer to them, together with our new ideas. Is it not then better to permit them to do so, than to say 'No, don't condescend to borrow from us, don't defile your language with our barbarous words, go to Sanscrit and Arabic, and thence concoct compounds and abstruse derivatives, and affix a meaning to them which, if people do not understand, they may be made to understand?' It seems to me that such advice comes less becomingly from us English than from any people under the sun. For what is our own language, of which we are now so proud, but the most polyglot in the world? How have we raised it from a savage jargon to one of the most copious, useful and practical of languages, but by taking all the higher words from foreign languages, wherever we have found them good and suitable? There are some excellent observations on this subject in a paper published by the Society in their Journal since the last meeting, a paper on the Hindustanee by Mr. J. Beames. As he says, "English, by ready borrowing and making good use of its borrowed stores, has raised itself from an obscure low German *Patois* to the most extensively used medium of communication between distant countries." And he draws a capital comparison between English which has thus freely borrowed, and German which has attempted to progress by combinations of indigenous words, rather than by borrowing. He shows us that while English, abounding in words which, though of foreign extraction, are now part of the language, and are concise, clear and easy, uses them with facility and effect, German has become entangled in a mass of horrible long

words, which make the language a caution to the world. He gives us specimens of these terrible words which I dare not attempt even to approach, and which make one shudder to look at them, and he compares them with their simple English equivalents. In fact the German language is the greatest possible obstacle to access to German thought. Radically our language is the same as German, and totally different from French. Yet how much more easy it is for us to learn to read French than German, and how many more of us do so! Why is this? Solely because, commencing by borrowing our terminology from a common source with the French, it has gradually come about that these two languages, originally so different, have now all the higher and more difficult parts of their vocabularies practically common to both—while English and German, originally so similar, have now wholly diverged in respect to all the higher portions of the languages. It is wonderful how few are the radical words of a language. It is said that an English ploughman uses only from 500 to 1000 words altogether, that is the original English vernacular. The language has now expanded, as we know, to very many thousand words, chiefly by dint of borrowing. It may even be that the question raised by Sir D. Macleod is, whether the vernacular languages of India are to follow the German or the English course; whether by compounding from the Sanscrit they are to render themselves as impracticable as the German, or whether, by borrowing, they are to become as convenient and cosmopolitan as the English.

“ Nay more, I believe that a greater question lies behind, the whole subject of inter-communication between the two races. I am one of those who believe that India will never be governed by an English Government to the satisfaction either of the Governors or the governed, till the two races draw together much more than they now do or than they now tend towards. A chief difficulty is divergence of language. We have discussed the great question of the use of English or of the vernacular in education. May there not some day be a compromise,—not in our day, but in those of our descendants—in the use of a vocabulary in a great degree common to both languages? The Vernacular radicals will probably never be abandoned; but may they not be overlaid by a common language, which may approximate them to English and to one another, as English and

French have been approximated? I believe that the question before us involves that issue. Scientific terminology may not seem so important, but it is well remarked in the last number of the *Quarterly Review*, that we scarcely know how far the ordinary words of to-day were the technical terms of another age. To whom does it occur, says the Reviewer, that such English words as 'judge' and 'guard' were originally technical Norman terms? 'Beef' and 'mutton' and many others are more palpable. My hope then is that the day may come, when the great mass of the higher words used in the vernacular languages may be derived from the European sources, from which the natives are so prone to draw—that thus a language to a great degree cosmopolitan may be formed, and that then a man who desires to learn one of the native languages, may have but to acquire the 500 or 1000 words used by the Coolie, with the simpler parts of his grammar, and, so much learned, he may find that almost all the rest he knows already—that he has mastered a polite and copious language. Such a consummation would, I am sure, do more than anything to draw together the educated and intelligent of the different races.

“Meantime, however, my motion is confined to the advice to be given to Oriental Colleges in regard to their scientific terminology, and in the belief that it is better to adopt than to manufacture new terms; and I submit my motion to the meeting.”

Mr. G. M. Tagore said,—“Mr. President, with your permission I should like to make a few observations. In my humble opinion, the history of the Sanscrit College of Calcutta powerfully illustrates and throws considerable light on the point under discussion.

“If I recollect right, one of the main objects of that institution was, not merely to encourage oriental learning, but also to convey a knowledge of the European sciences in an oriental garb and through an oriental medium. The Sanscrit College in time, as you know, became the debatable ground between the Anglicists and the Orientalists of that period. Its failure as an institution for conveying a knowledge of the European sciences is now acknowledged by all parties, and that failure, in my opinion, proves the necessity of a new terminology (or technology if you please) upon a new basis. Therefore the most important question in connection with this evening's discussion is, to

have an adequate notion of the basis upon which it is to be built. It has always occurred to me, that a new terminology cannot be introduced into a nation, without a strict adherence to what I should say on organic as contradistinguished from a mechanical law : that is to say not by a law of superposition, but by a law of incorporation. And the great test by which we are to detect whether such a law has been observed or not in any particular case, is by an appeal to the consensus of the nation, or in other words, to its invisible consent. To explain myself :—

“ A living language, as a great writer has said, is one in which a vital formative energy is at work ; and in the course of its evolution, it appropriates and incorporates to itself what it anywhere finds congenial to its own life, multiplying its wealth and increasing its resources, not by an evanescent and sporadic process, but by a fixed and an organic law, casting off from its vocabulary cumbrous forms and useless and uncongenial words, and by a reactive energy rejecting from the body of the language the foreign and the heterogeneous, which through conquest or other intercourse may have been forced upon it. Many foreign words have been introduced into our language under the above process, and many also rejected. For example the word *jahaz* (which is a foreign word) is used in preference to *nanika* for a ship. The word *nanika* in common parlance means boat. I cannot do better than quote the striking observation made by the Rev. K. M. Banerjee in his *Encyclopædia Bengalensis*.

“ “ Where words are required that are not in common use, I draw from the Sanscrit, if that can be readily done without having recourse to far-fetched inventions. Where an idea can be easily expressed by a Persian or Hindustani word already current, I make no scruple to adopt it, in case no Sanscrit or Bengali word can be found equally apt for the purpose. Where Persian or Hindustani words have been almost naturalised in Bengali, I do not fastidiously reject them, even though there may be corresponding Bengali words with the same meaning. In such cases I use the Bengali and the Hindustani indifferently, only taking care not to shock my readers by disregarding their taste in this respect. The word *thousand*, for instance, I have sometimes translated by *hazar*, sometimes by *sahasra*. It is, I think, an advantage where foreign words may be introduced into a language.

such as the Bengali now is, consistently with perspicuity, and without shocking the national feelings of the people. This is, I think, the legitimate way of enriching the vocabulary of such a language. Where a Sanscrit word, though expressing originally the idea I intend to convey, has, by the lapse of ages, obtained a different signification, I do not hesitate to use some popular term, having the same meaning, though it may be of foreign derivation. I have for instance generally translated *ship* by *jahaz*, though this is neither Sanscrit nor Bengali, because the Sanscrit *navika* though exactly corresponding to the Latin *navis*, is now used in Bengali to express a *boat* rather than a *ship*.

“ ‘Scientific terms I borrow from the English, when the Sanscrit fails to produce any either ready made or capable of being easily invented. In Geometry and Algebra, however, I have scarcely experienced any difficulty in procuring terms, since the Sanscrit vocabulary here is very full.’

“ ‘Then again : *Rail-garry* is used in preference to *Loha ka gharry*.’

“ ‘In connection with the present subject, I cannot help alluding to a class of men who ought not to be unnecessarily dragged to the notice of a purely scientific Society, I mean the Indian Missionaries. They would have succeeded to a much greater extent in their proselytising efforts, and would have attracted far greater sympathy from the natives, if they had been careful and provident in the adoption of a proper theological terminology.

“ ‘For example, if instead of naturalizing the word *baptism* in the native Christian vocabulary, they had used the far more expressive correlative of the word in Sanscrit namely *sanskara*, they would have found a certain meeting-place or common ground between Christianity and Hinduism. The introduction of a new word is often an important event in the history of a nation : what Milton said of books, might well be said of words : ‘They contain a progeny of life which is treasured up in a vial to a life beyond life.’

“ ‘I fully sympathise with Mr. Justice Campbell’s remarks, as to the antagonism between the two races in this country, the Native and the European. I could only wish that the European members in this assembly could fully dive into the depth and the intensity of his expressions. If by the use of a common terminology we could bridge over this unnatural unchristian gulf of separation, I should with all



my heart, and in the intensity of my Christian feeling, say God-speed to it. But I am afraid the scheme will fail, unless it were tested by and introduced in conformity with the consensus of the nation. And that last spark of liberty which this country has, will never yield either to the influence, or to the tide of conquest, save and except under a law peculiar to itself."

Bábu Rájendralála Mitra said: "I regret much the necessity that has placed me in opposition to my learned and respected friend, the honorable mover of the resolution; but I cannot conscientiously give my support to the proposition, that the scientific terminology of England should be introduced bodily into vernacular books. Such a measure, in my humble opinion, cannot but prove highly injurious to the spread of European science in this country. The subject is not a new one. It has engaged the attention of Anglo-Indian educationists off and on for the last forty years, and many and very contradictory have been the opinions put forth about it. Dr. Tytler, who had charge of a vernacular medical school some time between 1820 and 1825, maintained that European scientific terms could not be translated into the vernacular. He accordingly published a series of plates and text-books on anatomy with all the Latin names, such as *musculi adductores digiti minimi*, *musculi crico-arytænoïdes laterales*, all beautifully transliterated, and in the process, I may add, completely murdered, in Persian characters. This was rebutted by Mr. Felix Carey, who, in a portly volume on anatomy, showed that all the Latin terms could be with perfect ease rendered into Bengali. The late Pundit Madhusudan Gupta at the same time translated Hooper's *Vade Mecum*, in which all the European terms were represented by Sanskrit equivalents. Certain Missionary gentlemen were also, about the same time, engaged in a discussion as to whether the technical terms of the Bible should be transliterated or translated in the Bengali, and a Committee, consisting of Dr. Wilson, Dr. Mill, the Rev. Mr. Morton and some others, reported in favour of translation, and laid down some definite and very judicious rules on the subject. Next came Mr. Boutros of the Delhi College. He would listen to no translation, and obtained the permission of the then General Committee of Public Instruction to introduce English terms in a series of Urdu school books which he compiled for his college; but they all fell still-born from the press,

and never were touched beyond the four walls of the college premises. Ten years after him, Dr. Ballantyne of Benares brought his extensive learning and ripe scholarship to bear upon the vexed question of Indian technical terms, and ended by publishing a treatise on Chemistry, the most technical of all the sciences of the present day, with the whole of its terms rendered into correct Sanskrit. Since then, the practice in Bengal has been uniformly to translate foreign terms, and all our school books (and the Calcutta School Book Society issues a hundred thousand volumes every year) are produced on that principle. There are however, a few exceptions. I allude to the publications of the vernacular branch of the Calcutta Medical College. There transliteration is the rule exclusively, and in some of them their authors go the length of bodily transcribing such words as a hot bath and a sand bath, and produce in Bengali letters *haṭa bāṭha* and *sāṇḍa bāṭha*, as if the native languages had not words enough in their vocabularies to indicate hot water or sand or a bath. To an Englishman a sand bath may not be an ordinary everyday thing, but there is not a village boy in the obscurest part of India who has tasted a handful of parched rice, who does not know what a sand bath or a *bālir kholdā* is. A learned Professor of the College, himself a native of this country, gravely told me the other day that the hot bath implied a certain fixed amount of heat, which the translated word would not imply, as if in English or even in Medical phraseology the word hot implied a fixed degree of Fahrenheit's thermometer and no other. Sir, the resolution before the meeting, if adopted, would in a manner place the imprimatur of the Society on this folly of *haṭa bāṭha*. If it be desirable to encourage the study of the sciences and to naturalize them in India, we must make them easily accessible, and bring them home to every man's mind. We must offer them in simple and homely forms, clothed in the easiest language and divested as much as possible of mystical formula and jaw-breaking foreign terms. By adopting the terminology of Europe in vernacular books, we do the very reverse of this. We offer a set of words, many of which, to the generality of the people, will appear in so transmontane an aspect, that they will be taken more for mantras, or charms and incantations for driving away ghosts and overcoming evil spirits, than sober terms for indicating natural phenomena and every-day occurrences and

objects. For the people at large to pronounce them correctly would be a tremendous task, and to understand them accurately an impossibility. And it will readily be admitted that whatever increases the difficulty of acquiring the terminology of a science, tends likewise to disgust the student and render it unpopular. This has of late been greatly felt in England, and attempts are being made to divest popular books as much as possible of hard and not easily intelligible technical terms. To Englishmen Greek and Latin words twisted and turned and shaped on the lathe of the English Grammar, do not appear so foreign and difficult as they must be to the natives of this country, and yet to the former we scruple to offer that which we propose to drive down the throats of the latter. I am not insensible to the advantages of uniformity. I readily admit the great benefit which science would derive by having a common terminology the world over. But a universal terminology is not a universal language, capable of bringing together the different nations of the earth to one brotherhood. The one is, however, as Utopian and impracticable as the other. The nations of Europe, all drawing their terminology from Greek and Latin roots, have failed to secure uniformity. The genius of the different languages have so masked and transmuted the same words, that to people uninitiated in the mysteries of those languages, they appear totally different. To an Englishman unacquainted with French, the chemical terms of France are as unintelligible as those of Germany. But there is another agency at work more potent than the genius of a language, to promote and maintain the divergence of human tongues. It is the climate. However startling it may appear at first sight, it is as true as the sun will rise to-morrow, that the six consonants apiece of the Russian and the sibilants of the English which we have to "hiss, spit and sputter all," owe their origin mainly, if not solely, to climatic influence. That influence in India has given a soft flabby character to the vocal chords, which will always stand in the way of a correct pronunciation of English words in this country. No more will English blood maintain its English character for three generations successively in this land, than English words maintain their speciality. The climate will tell as unmistakeably and as surely on the one as on the other. In less than a century, English

words in the mouths of the natives will be so far Indianised as to be almost unrecognizable by an Englishman. The English omelet is with the native cook a *mamlet* and the haricot mutton a *hañri kabāb*. I wonder what the triple phosphate, tri-ethyl-ethyl-platino-phosphonium will sound like in a purely Punjabi mouth, even in the boasted perfection of the Sanskrit alphabet could reduce it to writing without murdering its character. But supposing, for the sake of argument that English scientific terms could be reproduced by Indian alphabets and preserved unchanged in the vernaculars, what would be the advantage gained by importing them? We could not hold converse with, or convey our thoughts on any scientific subject to an European, on the strength of a common terminology, without knowing his language. A few idle teachers are all that would benefit by the proposed measure, and they are the last to be pitied. The primary, the great, the only object of technical terms is to systematise science, and thereby to facilitate the acquisition of knowledge; to that must be sacrificed all other considerations; and inasmuch as a nation learns the terminology of a science more easily in its own mother-tongue than in a foreign language, the vernacular is the best material with which to prepare its scientific terms. It is true that those terms are mere names, and "all names," according to Hobbes, "are words taken at pleasure to serve for a mark, which may raise in our mind thoughts like to some thoughts we had before, and which being pronounced to others, may be, to them, signs of what thoughts the speaker had, or had not, before his mind;" and as such, English words may serve as signs to the Indians quite as well as native words. But scientific terms have something more to do than serve as mere signs. They are not proper names, or what the logicians call "non-connotative" terms, arbitrarily assigned to particular objects. They do not, like Mr. Black or Mr. White, indicate particular individuals by arbitrary assignment, without regard to the power of the words as expressive of blackness and whiteness. They are emblems intimately associated with their original meanings; they are like the *sutras* of our revered Rishis, intended to convey a whole train of ideas by a few expressive signs. The moment they cease to convey those ideas, they cease to be scientific terms, and become the jargon of the cabalists. Chemistry became a science only when Lavoisier and his co-labourers reduced it

to a uniform and most beautifully expressive terminology. Take that terminology away, and chemistry will again be what it originally was. The alchemists knew a great many facts in chemistry; they knew all the principal metals and most of the nonmetallic bodies. They knew them and their compounds well, but they called them brothers of the moon and sisters of the sun, or some such names, and used them as mysteries and delusions. We designate them by words which at once tell us exactly what they are and of what things composed, and we convert alchemy into a science. Let our per-nitrate of iron and sesqui-oxide of manganese cease to connote to our minds the different components of the articles we allude to, and they cease to be instruments of science, and become as unmeaning gibberish as the "sisters of the sun" and the "brothers of the moon." To the natives of India those words must necessarily be perfectly unintelligible, and therefore, if imported bodily into our vernacular books, they cannot but for us altogether destroy the beautiful simplicity and precision of chemistry as a science, and reduce it to the level of a juggler's art. And what is true of chemistry, will be true of most other sciences. Will Mathematics or Botany remain sciences to us, if we be called upon to work mathematical propositions without understanding such terms as lines and angles and arcs and trapeziums? or recognise plants, if we understand not what are petals and sepals and anthers and pollen?

"But perhaps my position will be admitted, and it will be said that the vernaculars are not rich and pliant enough to admit of the formation of sufficiently expressive scientific terms. This, however, I deny. Every experiment that has been made in this country on the subject, has proved the contrary. I am told it was said at the last meeting that such words as galvanism and electricity could not be translated into Bengali. But I can see nothing in them which need frighten us in the least. The word galvanism is a most unfortunate instance to quote. If it indicates anything it shews that we have not yet got a more expressive term in the English language to connote certain electrical phenomena than a non-connotative word, the name of an Italian physicist. As for electricity it simply means 'relating to amber' or *electron* the Greek name for amber. It has nothing to do with the various phenomena which

the modern science of electricity teaches us. We have a word for amber, but what could be a better word to indicate those phenomena than the native term for lightning? Then there are other terms in English which are positively wrong. Oxygen was the sole generator of acids as long as the composition of the hydrochloric acid was not known. A vegetable alkaloid, on the principle I suppose of 'Lucus a non lucendo,' is called narcotine, though it has no narcotic effect at all. Will it be proper to perpetuate those errors when conveying a science from a nation who has it, to another who has it not, and when we have the means of correcting them without creating any jar on usage? I certainly think not. I do not deny that there are certain words in English which cannot be rendered with absolute accuracy in any native language, and perhaps the *fi* : *fa* : and *ca* : *sa* : of our English courts could not be reproduced in such short handy forms in Bengali. But I, nevertheless, maintain that native terms are preferable to foreign ones. The English terms are not always and absolutely correct, though they will always be unintelligible and unpronounceable. The vernacular terms may sometimes prove to be incorrect, but they will be intelligible and useful, and therefore always preferable. But suppose the case were worse, and that vernacular terms were always to turn out incorrect, still their claims would not be second to those of foreigners, for it would be a great mistake to suppose that what is sometimes correct is necessarily better than what is always wrong. It would be a logical position which DeMorgan has justly stigmatised as a gross fallacy. My watch, Sir, it may be, is always wrong; it goes either a few minutes too fast or too slow; but it is nevertheless infinitely more useful than the watch which does not go at all, but which from that very circumstance is mathematically correct twice in 24 hours. My Indian terms like my watch will always be useful, though they may be at times somewhat inexpressive. The English terms may be exact, but like the watch that does not go, be perfectly useless and a positive encumbrance. I beg of you, therefore, gentlemen, to pause before you adopt the resolution. I feel convinced that it will prove, if it be enforced, a grievous hardship to the people of this country and a serious impediment to the progress of knowledge."

The Secretary read the following letter bearing on the discussion, at the request of the Rev. J. Long.

"I regret that want of time prevented my sending in the paper on technical terms which I promised. It is a subject with which I have had to deal practically during the last twelve years, in connection with schools and translations into the vernacular.

"It is of importance to keep to-night to the point at issue, which I conceive to be--not whether a scientific nomenclature derived from the Sanskrit or Arabic should be constructed for those natives who intend to study *thoroughly* the sciences of Botany, Minerology, Chemistry, Optics, Anatomy?—but whether the mass of the people, who can only gain an elementary knowledge of popular science, should have to study Latin and Greek terminology?

"The upper ten thousand who study English, will of course study science in English, and with it they will adopt the terminology which Englishmen use. But it is a very different question with the masses of India, whose knowledge will and can be gained only through the vernaculars, who have time only to study the elements of popular science.

"With respect to their case, and they comprise 170,000,000 in India, I would make the following remarks:—

"(1) Should we not so then endeavour to *popularise science*, by communicating its truth in as plain language as possible, freeing the approaches to its temple from the thorny jungle of hard words, and not imitating the Schoolmen in making a jungle of terms? Even in England itself, is it not admitted by some of the leading Botanists that their delightful science has been rendered distasteful to many, and particularly to ladies, by the numerous strange terms which they must first study?

"(2) In Bengal, with the exception of medical works, for which there are special reasons, all the popular works in Bengali on Botany, Natural Philosophy, Metaphysics, Astronomy, Zoology and Geometry, Algebra, &c. derive their technical terms from the Sanskrit.

"(3) As nine-tenths of the Bengali language is derived from the Sanskrit, those terms are easily understood and keep a firm hold on the memory. They generally define themselves thus, *peduncle* is rendered by *pushpa danda*, the flower stalk; *petal* by *pushpapatra*, the flower leaf; *petiole* by *patra danda*, the leaf stalk; also by a host of others. I have seen myself in schools under my superintendence peasant boys learn these terms with the greatest ease.

" 4. The terms used is Bengali are easily transferable to the Hindee, Mahratta, and Telugu languages used by one hundred millions of people, and they are equally applicable to Burmah and other countries where the Pali has been in use.

" 5. Throughout India with the exception of a few names, the technical terms used in the Bible and Prayer Book have been derived mainly from Sanskrit or Arabic.

(Sd.) J. Long."

The Rev. K. M. Banerjea said it had been his lot to occupy the *via media* in the discussions which were carried on with such vehemence nearly thirty years ago between the two schools, one of which is certainly represented by the last speaker (Baboo Rajendralal Mitra), and with the other of which the Hon'ble mover of the resolution has been identified, not however, as it would appear, with much correctness. Mr. Banerjea had himself written a good deal in connection with Sir Charles Trevelyan while the controversy was raging in olden days, and like all persons who stand in the middle of a combat, it had been his misfortune to receive shots from both sides. He differed as much from those who despised oriental learning, as from others who would use it as the only or the chief medium of native education. As far as the natives were concerned, the system inaugurated by the victorious party in 1835, under the auspices of Lord William Bentinck, has been fraught with inestimable advantages. "It is to that system," said Mr. Banerjea, "that you owe the large and increasing number of educated natives whose influence is now felt not only throughout the province of Bengal, but is fast spreading to the North West Provinces. It is owing to that system that you have now a native justice in the highest court of the presidency, and that you have a native bar which has been pronounced by competent judges to be scarcely inferior to the bar of Westminster. But for that system, you could not have had such efficient and trustworthy Sudder Ameen and Deputy Magistrates as are now the pride of the public service. And—but for the same system—you could not, this evening, have enjoyed the felicity of seeing the claims of Oriental literature itself enforced by a native gentleman with the eloquence and ability of my learned\* friend, the last speaker. And here I must remind the Society that the interests of Science and History are quite as much in its keeping as the interests of Oriental lore. The latter



should never be allowed to interfere with the former, nor should the Society encourage any system which would only produce mere pundits, ignorant of the history of the world, ignorant of everything which passed or passes elsewhere than among their own countrymen, whom nobody would trust, and who were once detected in an extensive forgery of whole passages interpolated in manuscript copies of a Sanscrit Law-book, held as authority in the Sudder Court. The real mischief which was done by the Anglicists, as they were called in 1835, was in the discouragement of oriental learning in the civil and military servants of Government. It is owing to the contempt of that learning in high places, that young officers take so little interest in the cultivation of oriental languages, and that you no longer find your Colebrookes and Wilkins raised up in the service by study in India."

Returning to the specific resolution before the meeting, Mr. Banerjea said he would heartily vote for it, if the Hon'ble and learned mover would but add the words "and the classical languages from which they are derived," that is to say, if the resolution ended thus: "Found in the vernaculars and the classical languages from which they are derived." He was opposed to the *minting* of new terms which nobody understood, and which the speculative inventor might himself forget afterwards, unless he daily exercised himself. The Society must not forget the interests of Science in its zeal for Orientalism. Where words are found in the vernaculars or their respective classics, let them not be ignored, let them be preserved by all means. But where the idea is quite novel, and there is no word in the vernaculars or their classics, let the foreign term which introduced the idea be at once adopted, without any murmur about purism. There are practical examples which are replete with instruction in this respect, and from which speculative purists may take a lesson. The records of the lower courts of justice are *by law* required to be kept in the vernacular languages, and yet no one has attempted to translate such words as "appeal," "issue," "decree." In the ordinary business of life, men use terms that are practically useful, without regard to the theories of any school, and no one has ever heard translations of such words as "discount," "exchange," "cheques," and a host of other business terms. The word "map," has been translated by *mán-chitra*, but it exists only on paper: it is never uttered unless by a school-boy under compulsion, and, though it has been on paper for many years.

past, if a man went to the China Bazar and asked for a *mán-chitra* of Europe or Asia, no one would understand that he wanted a "map." The word "*naksa*" might be understood, but that is equally foreign to the Bengali with "map." The Society should never encourage a speculative coining of terms when it has not the power of enforcing their use, and it would only throw the Society into ridicule to contend for what may prove an impracticable theory. The last speaker, said Mr. Banerjee, has referred to the Medical College and to its dogged adherence to English terms, unwilling to translate even such words as "hot water." I think the fact speaks volumes. The medical profession has to deal practically with science and human life, and its practice, as my learned friend himself has described it, adds force to the resolution. The experience of such a profession is not to be despised. And there may be many reasons for not translating even the words "hot water." The words are of course translatable, every community has a word for *heat* and one for *water*. But there may be occasions in which a Doctor may do much harm by translating them. And this reminds me of a case in which harm *was* done. Many years ago a person (a native) was taken ill of the cholera, and and there was congestion of the brain. A sub-assistant surgeon ordered the application of *hot water bottles* to the feet: he translated the order to the female who was attending on the patient. How did the lady understand the order and how she executed it? She had water warmed and then *cooled* and putting it in bottles, applied them to the feet. *Cold* water bottles were thus applied instead of *hot*, and the patient died! Speculative purism must not be pushed to the extent of sacrificing everything else before the shrine of oriental lore.

On the other hand, he would not proscribe terms existing in the vernaculars or the classics. He himself translated the elements of Euclid into Bengali twenty years ago, and with a solitary exception or two, he found all the necessary terms in Sanscrit, and freely adopted them. The Hon'ble mover of the resolution, he thought, would not wish the ignoring of such terms, and under this impression and with the slight alteration he had suggested, he would cheerfully give his vote for the resolution.

Bábu Rájendralála Mitra begged permission to say a few words with reference to the amendment suggested by the Rev. Mr. Banerjee. He did not care whether names of foreign things were taken from

foreign languages or coined in the vernaculars. He would in such cases rather borrow than coin. But in regard to compound terms which were not only to denote a thing but also to connote an attribute, he thought the process of borrowing would be highly objectionable. If it be strictly followed, it would put an end to all scientific terminology, and the beauty of classification would be entirely gone. There was in Bengali a word for iron, and also one for the oxide of iron, but none for oxygen or an oxide. Now in treating of the oxide of iron in Bengali, he asked whether it should be called *oxide of iron*, or, oxide of *lohā*, or *morchyā*? The first would be perfectly unintelligible, the second an intolerable mongrel, retaining an English preposition and an English affix in connection with a Bengali word, and the third utterly unscientific. In Botany again there was a word for leaf in Bengali, but none for lanceolate, and he left it to the meeting to decide if the words *lanceolate leaf* or *lanceolate pātā* would be the most appropriate way of teaching Bengali mallies the peculiarity of a particular kind of leaf. He was no purist, he said, and had some experience in the preparation of vernacular works for his countrymen, and he begged most earnestly to assure the meeting that there could not be greater monstrosities in language, than terms made up partly of European and partly of native words, held together by a random sprinkling of English prepositions and English affixes, and to them the meeting would drive the people of this country if it would insist upon their terminology being transliterated, and not translated and adapted from the English language.

On the motion of Major W. N. Lees, the discussion was then adjourned till Wednesday the 18th Instant.

The Council reported that they had elected Dr. J. Ewart, a member of their body, *vice* Major W. N. Lees who had resigned.

The receipt of the following communications will be announced.

1. From Baboo Goopee Nath Sen, Abstract of the Hourly Meteorological Observations taken in March, 1866.

2. From the Officiating Secretary Government of Bengal, Public Works Department, "Report of the Superintending Engineers of Bengal on particulars of the Earthquake of the 15th December, 1865."

3. From Captain H. H. Godwin Austen, "Notes on the Pangong Lake, District of Ladakh."

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## ADJOURNED MEETING—JULY.

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The adjourned Meeting of the Society was held on Wednesday, the 18th July.

A. GROTE, Esq. senior member, in the Chair.

The chairman read the proposed resolution.

The Chairman then called upon Major Lees as the mover of the adjournment, to reopen the discussion.

Major Lees said he regretted that he could not for many reasons support the motion. *First*, Because he felt certain, that if any such resolution as that before the meeting was passed, it would be wholly inoperative; and it did not, he thought, become Societies, founded for the investigation of scientific subjects, to waste their time in discussing a resolution, which, when passed, would be a dead letter. *Secondly*, This Society, composed as it was of a mixed body, some who professed one branch of knowledge, and others who professed another, but the great majority of whom professed none, was not the kind of Society whose opinion on such a subject would carry any weight with the public. An opinion on this subject, to be of any value, should emanate from a literary Society, the majority at least of whose members had some acquaintance with the principles of comparative philology and the genius of a variety of languages. The question of terminology was surrounded with difficulties in the West, and when we came to the East, those difficulties were increased fourfold. *Thirdly*, He must oppose the motion, because, if it were passed in its *present* form, it would certainly excite the ridicule of all men of science, and especially of those German philologists, to whom the whole world is so deeply indebted for their able researches into the principles which regulated the philological structure of languages, and for those labours which had laid the foundations of the science of language. In adopting technical terms for employment in translations from English into the vernacular languages of India, to exclude the large body of terms which already exists in the classical languages of India, would be very like excluding terms derived from Latin and Greek from our terminology in Europe.

The whole subject, as it appeared to him, was one of extreme difficulty, and one for which we ought not to lay down any rules; for if we did, no one would be bound by them. It was a subject which must be left to time and experience, and the time past and the experience already gained went some little way to show that, if let alone, the matter would right itself. It was a subject upon which coercion would do harm rather than good. People, if left to themselves, generally adopted that which appeared to them the easiest mode of settling a difficulty; and in this matter experience taught that, though individuals might be so eccentric, where a *nation* had a new science or new sciences to learn, they did not invent or coin new technical terms, when they had old ones *convenient for use* ready at hand. Thus the Arabs, when they translated all the Greek works on science they could obtain, did not invent new terms, though they did not as a rule import the Greek terms. They translated the ideas when possible. The Persians, when they commenced to study those sciences, many of which the Arabs had elaborated from the Greeks, took over bodily the whole terminology of the Arabs. European astronomers again did not reject the whole of the astronomical terms they found in use with the Arabs; they adopted some and translated others. There is no rule. Each nation, no doubt, adopted the course that appeared easiest and most in accordance with the peculiarities of its language; and such will be the case here. There are difficulties in the application of both methods, whichever be approved; and no resolution of ours will remove or simplify them. Thus, if to translate purely technical terms be impossible (as it really is), to introduce words which are not such, and which are easily translatable, is a very great mistake. It only increases the difficulties of acquiring knowledge, which no one can approve. It will be admitted that one of the gravest objections to the *chevaux de frise* of technical terms with which the approaches to all Western sciences is guarded, is that they deter many from acquiring them at all. This cannot now be mended; but here foreign words are often introduced quite needlessly, which not only hinders progress, but actually leads to the commission of ludicrous errors. Many of the terms mentioned the other evening as instances of the impropriety of using foreign terms are of this class. They afford no ground for argument, for they are not technical terms at all. Again, the learned Babu

instanced the word *electricity*, derived from ἤλεκτρον, *amber*, as an unhappy instance of indenting on Greek sources; but true technical terms come to be identified with the things or ideas they represent, and in ordinary use, seldom, if ever, retain anything of their derivative meaning. In a treatise on *electricity* published in the *Birgisi Baris*, or the *Paris Jupiter*, an Arabic newspaper published at Paris, chiefly for circulation in *Algiers*, but which is also taken in by some natives in India, the term used, if I recollect rightly, is precisely the same, viz. *kahrubah*, which is the Persian for *amber*, and which no doubt conveys its meaning equally well. Here the telegraph is the only illustration of the power of the electric fluid generally known, and it is called *tar-i-bargie* by educated Mahomedans, and *bijli ki tar* by the Hindus, both meaning "lightning wire." The one serves the purposes of those who use it quite as well as the other, and as *electric wire*, and both are equally scientific. The uneducated natives or common people generally call it *teeleegaraf*, which in Hindustan can have no scientific value, and to native ears must sound somewhat harsh if not barbarous. As illustrative of the errors likely to follow the abuse of terms not properly technical, he mentioned a curious circumstance. "In reading a native petition to Government last week," he said, "my attention was attracted by the words *Government parmeshwari lote*, for 'Government Promissory note.' Now *Parmeshwari* means relating to *Ishwar*, i. e. the Supreme Being, or, as we would probably say 'divine' or 'holy.' I pointed the word out to my native secretary as a curious coincidence. The *Maulavi*, however, informed me that it was no coincidence: that the lower order of natives had an idea that these notes were very solemn things; and that the Governor-General or some great State Officer, in issuing them, was obliged to take a solemn oath, that they would be cashed on presentation." But this, or the very numerous similar instances which could be adduced, are no arguments for or against the introduction of foreign technical terms in translating scientific treatises. Such blunders are made by the common and uneducated people in all countries; and he would be far from wishing to exclude *new* terms taken for a foreign tongue, from scientific works in India, because the masses would probably change them into any familiar terms which happened to be similar in sound—what he chiefly contended for was, that we should avoid, as much as possible, raising

up new difficulties, or increasing the difficulties which already beset the acquirement of almost all sciences. To pass any resolution which would exclude from the Vernaculars the great body of technical terms which already exist in Sanscrit and Arabic, in theology, law, logic, mental and moral philosophy, philology, mathematics, astronomy, &c., would come with a very bad grace from this Society. He had brought with him a weighty tome, which lay on the table before him. It was nearly a foot thick. It was called the *Kashfal-Zoonoon*, and was a dictionary of the technical terms used in the sciences of the *Moslims*. This book was published by this Society a few years ago, at a cost of some Rs. 7000 or Rs. 8000, and was edited under the superintendence of Dr. Sprenger and himself, and if this resolution was passed in its present form, it would be tantamount to saying that that sum of the Society's money had been wasted, or, in other words, would be to pass a vote of censure on ourselves. "We have here, it may readily be understood, a great mass of technical terms, and there are very many more in other dictionaries, which have been published elsewhere." To reject *all* these terms; or, as one half of them no doubt are to be found in some translations which have already been made, to take one half and to reject the other half, would doubtless not be a very wise thing to do. Indeed, to reject any terms which, being accurate and, as existing in a cognate language, more easily and more generally understood, can be more readily incorporated with the language into which the translation is made, would, in his opinion, be a very foolish thing. And to this latter point considerable attention must be paid, as the genius of languages differs materially. Of those we have to deal with, in this part of India, there are two great divisions; one which delights in compounds, the other which abhors them. The two cannot be said to be equally well adapted for receiving or absorbing, as a portion of the language, new terms derived from a foreign source. Again in the West, the Roman alphabet is in universal use. Here we have languages with very different alphabets, some having more, and some having fewer letters. Thus the Arabic language has not the letter *p*; and in different countries where that language is spoken, the letter *j* is pronounced as *J*, *G* & *h*. Few Asiatics can pronounce foreign words beginning with two consonants, though the sounds may not be un-

known in their own language, and these distinctions and differences of sounds and letters could be multiplied almost *ad infinitum*. It is thus often that true sounds are lost, especially when words are transliterated back into the original language, or any other foreign language. The Arabs, as before mentioned, translated most of the Greek technical terms where they were translatable, but they retained, of course, proper names. Some of these latter might be recognized if rendered into Greek or Roman letters, as *Sokrát* for Socrates, *Fiságaroos*, for Pythagoras, *Aristotílís* for Aristotle; but others, such as *Jalinoos* for Galen, would certainly become *Jolly Nose* in English, and *Bukrát* for Hippocrates, might with equal probability become *Big Rat*. "I trust then that from these hurried and unprepared remarks, I have made it clear that there are difficulties on either side of this proposition, and that this meeting will see that they will best consult the interest of science by letting it alone."

Mr. Dall favoured the passage of the resolution, provided the phrase "*technical terms*" be used in its stricter sense. At least there was a class of terms applied to recent facts and the discoveries of modern science, for which he conceived that no corresponding term could be found, even in the bulky quarto of Arabic and Sanscrit terms now on the table. He doubted if his friend Major Lees would find there any term answering to the chemical elements of bodies as at present recognized. As new facts and combinations occurred, or resolutions of bodies, once held to be simples, into yet simpler substances were accomplished, names were selected for them which partook of the nature of proper names of persons, and were, like our own names, untranslatable. Either an entirely new name must be invented, other than that which had obtained general acceptance among scientific men,—or the term must be transliterated. It could not be translated.

Mr. Blochmann read the following remarks:—

"I agree entirely with the last remark made by Major Lees, that the record of the opinions of the members of this Society regarding the resolution before us, will remain inoperative. The chief argument against a Sanscrit and an Arabic terminology has been already clearly stated by Mr. Justice Norman. I intend mentioning a few other reasons, which may be perhaps of interest, as they are based on facts. "The possibility, or otherwise, of inventing technical terms is by no



means a modern question. We know that among the Romans, Cicero was very often in great distress for the want of Latin equivalents for Greek scientific terms. The terms he required were for the most part metaphysical ones, and the *Disputationes Tusculanae* and *De Officiis* are full of words coined by him. In many cases, however, Cicero retained the Greek terms, evidently despairing of the success of Latin equivalents. How Cicero succeeded in *passing off* his new coinage, is a historical fact. Notwithstanding his great authority as the first of the Latin classics, he could scarcely prevail upon his countrymen to accept a single one of his coinages. Language is the immediate result of thought; you may call it thought itself: and hence no man will suffer his language being dictated to. Plutarch relates another curious example. A freed slave of the name of Carvilius, who was the first writing master in Rome during the first Punic war, wished to make a difference in form between the letters C and G. For up to his time and for several centuries after him, the Romans employed the C alike for C and G. Although a distinction like this would have been of the greatest practical benefit, Carvilius could not prevail upon his countrymen to adopt it. Three hundred years after, he found a votary for his proposed change in the Emperor Caligula, who was an amateur philologist, and it appears that, soon after, the distinction proposed by Carvilius was at last generally adopted. Here we have an example of a practical and necessary change requiring more than three centuries to become generally adopted.

The examples of modern times are also striking. The French Academy, with its magnificent Dictionary, was not able to fix the classical character of many phrases proposed and sanctioned by that learned body. The French language has since progressed independently of that dictionary. In Germany, about twenty years ago, a Society of respectable scholars was founded in Potsdam, whose object was, to substitute for every foreign word in the German language a good German equivalent, and to do away with the apparently useless foreign terminology. The scheme seemed to stand a good chance; for the power of the German language of forming compounds is, as it is the case with the Sanscrit, almost marvellous; although these compounds are by no means so formidable and unutterable, as the Hon'ble Mr. Campbell, and some time ago Mr. Beames in an essay in our Journal, represented. The Potsdam

scheme appeared also the more promising, as being suitable to the German mind, so fond of speculative theories. The Society went to work right earnestly. Even for the names of the Greek and Roman mythologies, German equivalents were substituted. But what was the end? The people of Germany would not accept the proposals of a learned Society; the invented compounds were laughed at, notwithstanding their general excellence. The fact that the language could form the compounds was no proof that they would become naturalized. The whole scheme is now-a-days forgotten, but it ought to be a warning to the whole world, and especially to Englishmen, who justly boast of looking at the practical side of every question.

With such examples before us, I cannot say why the case should be different here in India, as, I speak with all due deference, the pundits here will not be able to form more acceptable compounds than German savants.

I have to mention a few other facts. My learned friend, Babu Rajendralala Mittra, was very enthusiastic in speaking of Sanscrit compounds. But are the Hindus the only class, for which a new terminology is intended?

We have a large proportion of Mahomedans in this country, will they accept Sanscrit compounds? The answer will be, *No*; you must take them from their classical language, Arabic. Now I maintain—and I know that every Arabic scholar will be on my side—that the formation of compounds is altogether against the *genius* of the Arabic language; so much so, that our largest Arabic dictionaries do not contain a single compound, not even a coined compound. It is only in the very modern Arabic, that a few compounds have been attempted, but they are not yet generally received. Thus I may mention the modern Arabic word for rosewater, *الورد* for *ما الورد*. The position of the article before the word *ما* shows plainly that *الورد* is a compound. Under these circumstances, we would have to take words which are not compounds, *i. e.* we should have either to give new meanings to existing Arabic words, or invent new roots. Both things are impossible, especially the latter, as all languages on earth which are not absolutely savage, have long ago lost the power of creating new roots. This explains the fact that numerous foreign terms have been introduced into every living language. The Arabic is no exception to

this rule. For, rich and immense as the resources of this language are, a very large number of Greek and Persian terms were adopted, even from the time before the Hijra, which in some cases seem altogether useless. Thus we find even in classical works *سارستان* or *بیمارستان* P. hospital, for A. *تخمین و دارا لشف* to cast up an estimate, from the P. *گمان* for the good *تقدیر طسق* a tax, tribute, the Greek *τάξις* for the A. *خراج* and hundreds more. The Arabs have certainly a large number of indigenous scientific terms, as is shewn in the grand dictionary published by Drs. Sprenger and Lees for our Society. But these technical terms are altogether insufficient for modern science. It is a well known fact that the Arabic and Sanscrit possess a large number of metaphysical technical terms; and I think that every modern work on metaphysics could be easily translated into Arabic and Sanscrit, without the use of a single Western technical term. But this is the case with every language. For in metaphysics we have as yet no general terminology, as in Natural Science, nor do even the technical terms of one English philosopher in every case agree with those of another. I mention this, in order that the immense number of Sanscrit metaphysical terms, which are more or less accepted, may not induce some of my learned friends to extend their expectations to the technical terms of other sciences.

Babu Rajendralala Mitra mentioned among others, the fact, that useless words, like 'hot baths' for *garm gosl*, had become accepted by the vulgar. I would not call this a technical term, but view it rather as an adoption necessary to avoid ambiguity, like *posman*, *áfis*, *sléce*, *clák*, *sílwaran*, for postpone, office, slice, clock, sale-warrant, &c. Europeans have not recommended their use. The vulgar has got hold of them and refuses to let them go now. But Babu Rajendralala Mitra mentioned also Botany, and said that the Bengali or Sanscrit had beautiful words for petal, stalk, &c. and that the introduction of these English words would be mischievous. But the introduction of such terms even is not intended. We do not care whether the English, French, German, Bengali, &c. have the same or different words for things like petal, stalk, &c.: we could not call such words technical terms. For they existed in the language before the science of Botany was cultivated. But all European savants give to the plants the same scientific name, and in this respect it is desirable, that India

should adopt the same. All European languages have the same word for locomotive, electrophorus, astatic needle, isotherms, &c. These and similar words may be often differently pronounced in different countries. The English pronounce locomotive, the French locomotive and the Germans locomotivay. My learned friend fears that the Indians might imitate the word, and perhaps pronounce lakmadip and lokhyodibh. There is no harm in that. Only let them spell it as the Western nations do, that treatises written in future by Bengalis, on improvements on locomotives, may be easier understood in Europe.

The fact that every country speaks a different language, is a formidable obstacle to the rapid interchange of scientific ideas and facts. A radical difference in terminology would only increase the obstacle. Nor are translations of technical terms here of any use. The Potsdam Society recommended for Jupiter the translation, "Tagesvater," i. e. Father of Day. It was smiled at. What would a Persian say, if you recommended to him for locomotive موضع خراك because موضع means loco and خراك moves? He would laugh. I am told the Punjabees, on seeing the first locomotive in Amritsir, called it "the iron horse," just as the Roman army fighting in Lucania against King Pyrrhus called the elephant *Bos Lucanus*, Lucanian ox. But I have no doubt that the iron horse will soon give way to locomotive or *Railgari*, just as the *Bos Lucanus* has given way to *Elephas Africanus*."

We have then the following additional reasons against a Sanscrit terminology of compounds. First the useless, I might say ludicrous, attempts made in ancient and modern times against the natural development of a language, by dictating to it coined terms. Secondly, a terminology from the Arabic is impossible, as being against the genius of the language. Hence Sanscrit technical terms would suit a *portion* of India only. Thirdly, modern languages have lost the power of forming new *roots*, (I do not mean derivatives) for new things. New things in our times are invariably expressed by foreign terms.

Then, in my opinion, we may retain for the purposes of vernacular education the use of those technical terms which the Indian classical languages already possess, but we might fairly recommend the introduction of our Western terminology for such terms as do not

exist at all in Sanscrit or Arabic. Should the languages of India adopt even in many cases English terms, for which good native terms exist, we ought to remember from the past, that the severity, or authority, of no linguistical purist is powerful enough to arrest such a phenomenon.

“I am under the impression that science has long ago established the correctness of the resolution before us. But I cannot see what benefit would arise, if our Society should record an opinion on a settled matter. For this reason I cannot support the resolution.”

Mr. Blanford spoke to the following effect :—

“With many of Mr. Blochmann’s remarks I am entirely in accord. As I remarked on the first occasion on which the present matter was discussed, I do not think that any decision that the Society may come to, will in any way affect the ultimate practical result, which will be determined by the convenience the natives may find in adopting the one or the other course now under discussion. All we can do is, to endeavour to ascertain which of the two courses pointed out will probably prove most convenient, and by endeavouring to convince others, save them, perhaps, some misapplied labour. Sir D. Macleod has given his opinion, an opinion which, being at present unopposed, will doubtless carry much weight with those to whom it was addressed ; but he has asked us for our opinion also, and I think therefore we are bound to give it.

“The question at issue is, I take it, purely one of convenience, and we may fairly set aside all supposed preference on national grounds for one or the other course. Science is cosmopolitan, and nothing tends more to raise men above small local partialities, than the study of Science in a scientific spirit. I must, however, point out at the outset, that all my remarks are intended to bear on the study of *Science*, which alone deserves the name,—of that body of systematized knowledge, which has methods, as well as a language of its own ; and I in no way refer to such scattered fragments of its results as are imbibed as dogmas, and with a view to their practical uses, by those who have little or no conception of scientific method. For the education of the masses, it will probably be found here, as in England, that much useful practical knowledge may be conveyed, with the assistance of a very small amount of technology, and that words in common use

may, with very few additions, suffice to convey as much knowledge as the people generally either require or are capable of acquiring. Scientific technology and nomenclature are chiefly required because Science deals with new and rigorous conceptions, and because she recognises distinctions which are not recognized in popular language; since the masses who use that language, do not find it necessary to draw such distinctions. When these new conceptions and rigorous distinctions are learned and recognised, a scientific language is required to express them with precision; but the acquisition of the ideas and knowledge of things is the essential and really difficult part of the process, and the sounds which denote them are very easily learned, when their meaning has once become familiar. I have found in my own experience at the College, that students learn technical terms much more readily than they acquire the ideas they are intended to convey. The error, which, as I conceive, has pervaded the greater part of my friend Babu Rajendralal Mitra's eloquent address, affords an illustration to the point. He has frequently used a very technical term, 'connotation,' a term certainly not much used in ordinary conversation or writing, but he has used that term—not in its rigorous technical sense,—but as if it were synonymous with 'descriptive etymology.' Indeed his main argument rests upon the assumption, that as a general rule, the root-words of which a technical term is compounded, inform us of the meaning of the term itself, (the 'connotation' or possession of certain distinguishing characters which the term implies.) This, as I shall endeavour to shew, is by no means a common character of the nomenclature of science, of the naming of objects; equally little is it the case with scientific terminology, or the technical terms by which objects and their relations are described; and if this be so, I think the whole argument that has been based on the assumed identity of 'meaning' and 'etymology,' by confounding them under the unfamiliar term 'connotation,' falls to the ground. That so erroneous an idea should ever have been adopted, is, I imagine, in great part due to the method, by which, in a measure perhaps unavoidably, it has been attempted to teach Natural Science in this country. As I have elsewhere observed, this has been mainly a book teaching of names and words, not of things, or of the ideas which the knowledge of *things* suggests; and it is no wonder therefore, if, in the absence of the objects and visible

phenomena, the custom has grown up of endeavouring to collect the meaning of technical terms from that of the elementary sounds composing them.

“Let us see now how far technical terms are really descriptive. In Zoology and Botany, to begin with, a very large number of names are simply the names of places or individuals, with a slight alteration or addition of the terminal syllable. When any fact at all is recalled by the name, it is usually nothing more important than that the animal or plant or fossil so named was first noticed at such a place, or first collected by such a person. Even this last is quite exceptional, and more frequently the name is given as a mere verbal monument of some friend's merits. In the Physical Sciences, in which the mere nomenclature is less copious, and therefore less exhaustive of our resources, terms of similar derivation are also frequent, and thus we have *Magnetism*, *Galvanism*, *Leyden jar*, *Frauenhofer's lines*, *Boyle's law*, *Nicholl's prism*, *Ammonia*, *Magnesia*, *Andalusite*, *Silurian* or *Cambrian systems*, &c., a list that might be extended almost *ad infinitum*. Among these, we frequently find two or more terms of totally different technical signification, derived from the same source, as e. g. *Magnesia* and *Magnetism*, *Ammonia* and *Ammonite*. Another class of technical terms are based on some fanciful analogy or erroneously supposed relation. Such are *anode* and *cathode* in Electric Science, *Hematite*, *Topaz*, *Blende*, and *Crystal* and its derivatives in Mineralogy, *Porphyry* and *Trap* in Geology, and a host of others. And in Zoology or Botany, even when the name used has some descriptive meaning, it would be frequently as applicable to those objects which it counter-indicates, as to those which, by convention, it denotes. Thus such names as *formosa*, *splendens*, *magnus*, *similis*, *dubius*, *problematicus* are of constant occurrence as specific names, when they would greatly mislead, were they supposed to be descriptively distinctive. Lastly, to take those cases in which well known vernacular terms are used in Science, we frequently find them used with a distinct or specially restricted meaning, so that it is a question whether, in such cases, their use is not apt to foster that very vagueness and confusion of thought, which it is the chief condition of Science to avoid. Such are *fault*, *joint*, *rock*, *cleavage* in Geology; *current*, *pole*, *positive*, *negative*, *salt*, *atomic weight*, *acid*, *base*, &c. in Physics and Che-

mistry ; and in Zoology we use such terms even as *fish*, *reptile*, and *insect* in a more special sense than in ordinary language. These, however, and a large number of words constantly in use in vernacular languages, are generally translated in European languages, and the same will doubtless be the case to a great extent, when scientific books are written or translated in the Indian vernaculars. But these words are expressly excluded by the terms of the resolution.

Babu Rajendralala Mitra's argument that chemistry, without its systematic nomenclature, would relapse into the confusion and mysticism of Alchemy, affords a salient proof of how much he has misunderstood the real state of the case. In answer to this, it is sufficient to say that the chemical systematic nomenclature only applies to a small part of the science, the inorganic branch ; but he will scarcely assert that organic chemistry is not as much a science of law, and weight and quantity, as the inorganic branch. Science, as I have said, is characterized by its precision of idea and rigorous definition, and whether the etymology of the words it employs to denote ideas and things, have a vaguely descriptive etymology or not, is a matter of quite secondary importance, so long as the things are well known and the ideas are clearly conceived and accurately reasoned upon. I think then, that in popular vernacular teaching, where scientific exactness is not aimed at, and cannot be attained, the less technology is employed, the better ; and the fewer the Greek, Latin or Sanscrit terms introduced, the better probably for teachers and pupils. When new objects previously known only to science become familiar to the people, experience shews that they have no difficulty in learning the names, however unfamiliar their etymology may be. *Rhinoceros*, *Hippopotamus*, *Astronomy*, *Astrology*, *Geography*, *Aniline*, *Paraffine*, *Iodine*, and a host of other terms originally esoteric, are now familiarly used by thousands who have no idea of their etymology, and by classes to whom they were originally as strange and unfamiliar as they would now be to the mass of the people of India. But, for *science*, technology is indispensable, and as the students of science must have recourse to works in other languages than their own, it is a great advantage to them, (I speak from my own experience) to have to learn the vernacular vocabularies only, and to find in those languages the same terms, (written, if not pronounced the same,) as are already familiar



to the eye. In reply to Major Lees, I would say, that in my opinion the whole question is not one for Literary Philologists to decide, but rather, in so far as any decision is possible, for those who are practically familiar with the demands of their own sciences.

Dr. J. Anderson thought that the *onus* of the debate rests on Sir D. Macleod. He had said in his reply to the address of the native nobility and gentry of Lahore and Umritsur, "I would urge you to adhere to oriental models, whether in the designation of your institutions, the degrees or honors they may confer, or the scientific technology they may adopt, rather than unnecessarily import terms from European lands, which last appear to me to be as unsuitable here as would be the modes of dress of other nations, if substituted for the more graceful garments of your own;" and in his memorandum read at the meeting of the Society in June, he had invited the aid of the Society's advice and encouragement, with reference to the subject of this address. Two matters quite distinct from each other had been discussed by the meeting. One was the mode in which educated natives could best be inducted to a knowledge of European science. The other was that of a dogmatic imposition of a technical language. This last was of course impracticable, but with reference to the former he thought the only way of attaining the object in view would be, to use the language of European *Savans* which had been specially invented to convey their ideas. He thought, however, that the terms of the resolution, as it stood, were too dogmatic, and he would move the following, as an amendment—

"That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages."

Mr. Ganendro Mohun Tagore said,

"I beg to second Dr. Anderson's amended motion. You will pardon my observing that there is considerable difference between encouraging the use of a foreign technology, and the amended form of the resolution, not to discourage the use of a foreign technology. The former would have been a direct interference, whereas the latter is only the suggestion

of a co-operative measure that may tend towards the enrichment of the Indian vocabulary."

The Rev. K. M. Banerjea said that he understood Mr. Blochmann to concur with most of the other speakers on the *essentials* of the Resolution now before the meeting—only, he was opposed to the carrying of that resolution, because he thought there was no occasion for it. If the Hon'ble and learned mover had asked the Society, uncalled for, to commit itself to the sentiments contained in his resolution, he, Mr. Banerjea, would have joined Mr. Blochmann in deprecating this motion. Mr. Blochmann has shown with great ability and learning that the resolution is correct in its *essentials*, and that the arguments which another learned member had put forward a fortnight ago in opposition to it, were not weighty. But Mr. Blochmann thinks that the Society is not called upon to pass the resolution, though correct in itself. He, as it were, moves the previous question, without directly contradicting the resolution. Mr. Banerjea cannot concur with him in this. The society has already committed itself. The Society has expressed a sort of *quasi*-approbation of a scheme calculated to stop the progress of historical studies and scientific researches on the part of the natives of the Punjab. For how could they study, purely by means of the oriental languages, subjects not contained in those languages? The Society is pledged to consult the interests of Science and History no less than those of Oriental lore. Its anxiety for one of its trusts has already led it to overlook the other. An expression of opinion is therefore necessary in the interests of Science, which have inadvertently been compromised by what has passed. Besides, Mr. Macleod has asked for the Society's opinion. If nothing more be said than what has already passed, Mr. Macleod will have no data for concluding that the sentiments of the Society are anything like those which are contained in Mr. Campbell's resolution. The Society being already committed, it is too late now to move the *previous question*, as it were. The previous question might have been originally moved, when Mr. Macleod's scheme was first brought to the notice of the Society. The Society might have abstained *in toto* from an expression of opinion on the Punjab scheme, as it never took any notice of a measure at its own door—viz. the resolution of the Calcutta University, by which the study of Sanscrit or Arabic was made compulsory

on the part of Indian graduates not taking up Greek or Latin. The Society might therefore have refrained altogether from interfering with educational movements—but having already interfered, it is too late at this time of day to say that it has no business with a motion of this kind. It has already entered into the business—it cannot now back out. It must face the resolution. Let it negative the resolution directly if it can—but while approving it in its essentials, let it not throw it overboard by something like a motion of the *previous question*.

Mr. Banerjea then moved an amendment in the wording of the resolution, which he said ought to conclude with the words “for which equivalents are not found in the Indian vernaculars or the classical languages from which they are derived.” He thought that while elaborate fabrications of new compounds, quite as unintelligible as any European terms, and much more so than current European terms, were to be deprecated, no terms already existing in the classical languages of the country should be ignored.

Mr. D. Waldie said :—

“ I do not intend to object to any modification which the honorable mover of this resolution may make upon it, but I confess that I should have preferred Mr. Campbell’s original motion. Sir Donald Macleod’s proposal on this subject appears to me very objectionable, for it seems to give encouragement to a spirit of nationality. Now, science knows nothing of nationality : science is cosmopolitan in its spirit, and it is of the greatest importance that its language should be as universally understood as possible. Major Lees has said that the chief advantage and necessity for scientific nomenclature is, that it may be universally understood. This, it is true, is a highly important point, but it is not its primary object: that, as has already been indicated by Mr. Blanford, is precision of definition. Etymology is of subsidiary importance; in giving a name, though it be to his dog or his horse, a man always has some reason, but the name becomes arbitrary, and its origin is often forgotten. For instance in the case of the chemical elements Chlorine, Bromine and Iodine; though these names were derived from Greek words, indicating certain qualities of these bodies, the large majority of people acquainted with these bodies and their properties, will much more readily remember the Greek words from the knowledge they have of these properties, than they

will such properties from the origin of the names. The names in fact become arbitrary terms.

"I do not see the force of the objection raised by Major Lees from the large volume of native scientific terms he has referred to. As regards words which are suitable for their purposes, there is no reason for changing them, and we do not desire to do so; but there must be many also, more particularly those connected with the natural and physical sciences, which can only be of interest or use in the history of antiquated science. We make no objection to preserving them for such purposes, but the question at present is with reference to the introduction of modern science: we are endeavouring to introduce the knowledge of new things, facts and ideas, for which there are no native words in existence; and what we contend for is, that the names given to these things by those who have first described or created them, should be accepted by those to whom they are impartial, and not be superseded by others needlessly invented for the purpose. If the plea of nationality and peculiarity of language is a good one, then in proportion as scientific knowledge is extended to different races, we should have new terms invented not only on the basis of the Sanscrit, but on that of Arabic, Chinese or other leading language, producing difficulty and confusion greatly to be regretted.

"European cultivators of science do not confine themselves to words of Latin and Greek origin: there are many instances of terms derived from other languages; and it appears to me that it would be a course much more redounding to their honour, if the Hindoos, in cultivating the modern sciences, instead of setting about inventing new terms to replace those already accepted and used by scientific men throughout the world, were to apply themselves to the discovery of new facts, and the evolution of new ideas. In giving names to these, should they derive them from the Sanscrit or the Arabic, there can be no doubt but that European men of science would readily adopt them."

Major Lees said that he was very reluctant to prolong a discussion which, he had already stated, he thought profitless; but he must protest against the turn that had been given to the debate, lest it should be inferred that the principle against which the arguments of many of the gentlemen who had spoken this evening were levied, was embodied in the reply of the Lieut.-Governor of the Punjab to the

native nobility and gentry of Lahore and Umritsur. It was sought to be shown that Sir Donald McLeod had said something conceived in a spirit of hostility to the use, under any circumstances, of Western scientific terms in oriental translations; but he had read his reply very carefully, and nowhere could he find any grounds whatever for such an assumption. What the Lieut.-Governor does say is, that he would prefer to see the promoters of the Lahore College adhere to oriental models "in the scientific technology they may adopt, rather than unnecessarily import terms from European lands." And he would draw special attention to the word *unnecessarily*, the force of which seems to have been entirely overlooked, or the sense of the passage misunderstood. But it appeared to him, that if the Lieut.-Governor's impression was to be interpreted in the sense, words in the English language ordinarily bore, what he had said, had very nearly if not quite the same meaning as the last amendment to the Hon'ble mover's motion; and having been in communication with His Honor, since notice of this motion was given, he was not at all prepared to say that, were he here present, he would offer any very strenuous opposition to it. Such being the case then, it seemed strange to him to propose a resolution evidently intended to express dissent from a particular view, which was almost identical in substance, if not in the terms of its expression, with the resolution brought forward to condemn it. It must be borne in mind that Sir D. McLeod was addressing a body of gentlemen whose special object was to found an Oriental College, in which the subjects mainly studied will be the classical languages of India; and though the Lieut-Governor himself is opposed to anything like exclusiveness, and desires "to disseminate as far as possible the knowledge supplied by all lands," yet no doubt the wish and intention of the founders is to revive the knowledge of their own ancient classics, which has almost disappeared. Possibly very little science may be studied in this College at all, which, it may be the intention, should bear the same relation to Government Colleges, as a very few years ago Oxford did to Cambridge, when an Oxford student's knowledge of any branch of science might have been set down as *nil*. It had been said of the students of Oxford, that though ignorant of science, there was an odour of Plato and rose-water about them, and possibly that is the style of thing our friends of Lahore prefer to chemistry, botany, and other studies which bristle with technical terms.

Mr. Campbell, as the mover of the resolution, replied as follows:—"I must remind the meeting that this discussion came about in consequence of the submission to the Society of an address of Sir D. Macleod to the Oriental University, and a memorandum of that gentleman asking our advice on the subjects there mooted. A resolution of thanks to Sir Donald for his address was proposed and voted; but at the same time, to guard against the construction that we shared the more extreme Orientalist views contained in the address, I gave notice of the present motion. It appears to me that Sir D. Macleod, in words as plain as words can be, urged the managers of the new University *not* to adopt European scientific terms, but to take them from Oriental models. Major Lees now seeks to show that Sir Donald meant nothing of the kind. His argument is ingenious, but savours somewhat of special pleading. I can, however, well believe that on re-consideration, Sir Donald would not maintain so extreme a view, and am glad to suppose that both he and Major Lees may now to a great degree concur in my motion. I sought to express dissent from the view contained in the passage of the address, by voting affirmatively, that when we have to express a new thing or a new idea, not known to the vernacular languages, it is better to adopt the cosmopolitan term expressing that idea or thing, rather than coin a new one, or drag into the service from a dead oriental language a term wholly unintelligible to the people. But I am extremely ready to defer to the feeling expressed by several members of the Society, that it is desirable to avoid any appearance of dictation in the matter. I am perfectly content to leave the matter to the free and unbiassed choice of the natives themselves, who, in all their relations with us, show so decided a tendency to the adoption and adaptation of European terms. I have no doubt that whatever we may resolve, they will in the end use those terms. My only object is to express dissent from the strong discouragement of and warning against that course, which the passage in Sir D. Macleod's address to which I allude, seems to convey. Therefore, when I came, to the meeting to-day, I thought that my object would be quite sufficiently served by the negative form of the resolution, which I sought to substitute for that which I had placed before the meeting, and which Dr. Anderson has now been good enough to move. Dr. Anderson's amendment

simply expresses that it is not desirable to discourage the use of European terms. We would leave the natives free to use them if they find them most convenient. We think that from us Europeans, at any rate, there should come no discouragement of such a course, which in fact most of us would, I believe, rather actively encourage, so far as in us lies, though we cannot and would not dictate in the matter. I propose then to withdraw my original motion, and to support that in an amended form, as moved by Dr. Anderson.

"I cannot consent to the amendment of the Reverend gentleman opposite, because I think that it is not desirable to adopt obscure and far-fetched Sanscrit and Arabic words. Sanscrit is not in this country the language of education as Latin is in Europe. Ordinary educated natives know nothing of Sanscrit, and Sanscrit compounds are as bad as German ones. Arabic is a language wholly foreign to this country; all very well when the Mahomedans were masters, but not suited to these days. The first result of this proposition would be, that we must all make a commencement by getting up the whole of the terrible great book which Major Lees has placed on the table, a book which the Society has printed, but which I doubt if any member has read. The speech at our last meeting of the learned Babu Rajendralala was most able and excellent, and my only objection to it is, that it was not to the point. He seemed to represent me as seeking to force down the throats of the natives English words for the commonest terms, for 'hot water' for instance. Such an idea I never entertained for one moment. I have all along said that, wherever a vernacular word exists to express the required meaning, and is used by the people, they must continue to use it. I have been asked what I mean by the vernacular. I mean simply the language used and understood by decently educated natives. Of course I do not suggest that a word is not vernacular, because it is of Sanscrit origin. "*Jal*," water was mentioned, that is an elementary vernacular word. As respects the words "general use" in the proposition before the meeting, it is now only proposed that we should not discourage the use of English words by those who choose to use them. I would say, Let the more learned few use European words which they find convenient, and let the millions also use those European words which *they* find convenient, whether scientific, technical, or any other. I do not object to corruptions: in all

adaptations there must be corruption, but a very little practice enables us to recognise one word a little modified. We hear every moment natives around us using such words as "rail," "map," "receipt," "claim," "court," "decree," "warrant," "momlet," "boot," and many others. I hope that they will long continue to use them, and increase their stock. At any rate I say do not let us discourage their doing so."

The chairman, in putting the motion to the meeting, observed that he did not understand Major Lees as having qualified and retracted the remarks which he had made in opposition to Mr. Campbell's motion, and in all which remarks he (the chairman) cordially concurred. Nor could he read that passage of Sir D. Macleod's reply to which Mr. Campbell had just referred, as asking for the Society's opinion on the question of scientific technology which had been discussed at such length. Sir D. Macleod seemed to wish for advice only on the subject of the relations to be established between the new Oriental College and existing Government institutions, a subject on which the text of Mr. Campbell's resolution very properly declares the Society to be precluded from expressing an opinion.

Major Lees had anticipated the chairman in calling attention to that passage in Sir D. Macleod's reply which had given rise to the resolution before the meeting. The advice therein given was '*not unnecessarily* to import terms from European lands.' Dr. Waldie had pointed out instances, in which it would be absolutely necessary to import terms from some source, and to cases such as these, Sir D. Macleod's warning would not of course apply. If the chairman rightly understood Mr. Campbell's closing remarks, the latter gave his assent to the view of the question expressed by Dr. Waldie, and in that case he thought that his motion in the negative form, which it had assumed as Dr. Anderson's amendment, might well be withdrawn.

Mr. Campbell had at the last meeting referred to Mr. Beames's paper just published in the Journal, but the chairman did not there find any disposition to advocate the object of the resolution. Mr. Beames strongly recommended the indenting on Arabic rather than on Sanscrit roots for supplying deficiencies in official Hindustani; but his objections to Sanscrit compounds would apply to the introduction of terms derived from any of the Indo-Germanic languages.



As the hour was late, the chairman would now put to the vote the several amendments which had been handed to him. Mr. Campbell had, with the permission of the meeting, withdrawn his original motion, and had adopted the amended form of resolution proposed by Dr. Anderson. He would now read the latter to the meeting.

"That while the members of this Society regret that they feel themselves precluded from expressing an opinion on the purely educational matters on which Sir D. Macleod has done them the honor to consult them, they would venture to express the opinion that it is not desirable to discourage the general use of scientific terms, for which equivalents are not found in the vernacular languages."

To this the Rev. Mr. Banerjea proposed to add as a rider :—" or the classical languages from which they are derived ;" and the following amendment had been handed to him by Babu Rajendra Lala Mitra ;—

"That all terms intended to denote attributes should be invariably translated and adopted ; but simple names of things may be taken from the languages of Europe, if their equivalents be not found in those of India."

The amendment and rider having been put to the meeting and negatived by shew of hands, Dr. Anderson's resolution was submitted to vote, when there appeared—

For the resolution :

Against it :

11

6

and the resolution was declared carried.

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR AUGUST, 1866.



The monthly general meeting of the Asiatic Society of Bengal was held on Wednesday, the 1st instant, at 9 P. M.

The Hon'ble J. B. Phear in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From the Government of Madras, a copy of lithographed sketches of the Shevaroy, Pulni and Anamulley Hills, by Lieut.-Col. D. Hamilton.

2. From Major B. Ford, specimens of *Crustacea*, *Echinodermata*, Centipedes and snakes from the Andaman Islands.

3. From W. T. Blanford, Esq., Specimens of *Gallus Sonneratii*, *Galloperdia lunulosa*, *Fuligula rufina*, *Antelope quadricornis* (two heads), and fore and hind leg of *Bos Gaurus*.

The following gentlemen were proposed for election at the next meeting:—

Lieut.-Col. H. Ballard, C. B. proposed by Mr. Grote, seconded by Mr. H. F. Blanford. Captain F. S. Sherer, Deputy Commissioner, Gowhatty, proposed by Dr. J. Anderson, seconded by Mr. H. F. Blanford.

The Council reported that they have elected the Hon'ble G. Campbell, as Vice-President, *vice* Mr. W. L. Heeley, who has resigned; also that Mr. A. Mackenzie has been added to their body in his place as a member of the Council.

The Council reported that they have appointed two provisional Committees\* to determine the course of action of the proposed Ethnological Congress, and they have nominated the following gentlemen as members, with power to add to their number.

*Physical Committee.*

A Grote, Esq.  
 Dr. S. B. Partridge.  
 H. F. Blanford, Esq.  
 T. Oldham, Esq.  
 Dr. J. Ewart.  
 Dr. J. Anderson, *Secretary*.

*Linguistic.*

The Hon'ble G. Campbell.  
 H. Blochmann, Esq.  
 Babu Rajendralala Mitra.  
 Major W. N. Lees.  
 J. Beames, Esq.  
 H. Beverley, Esq., *Secretary*.

The following communications received since the last meeting were then announced.

1. From J. Beames, Esq., on the Arabic Elements in official Hindustani, No. 2.
2. From the Secretary to the Government of Bengal: some Reports on the earthquakes felt at different parts of India.
3. From W. H. Johnson, Esq., through Col. J. T. Walker: Report of the Survey operations of the Cashmere series beyond and to the north of the Chángchénmo valley.
4. From Col. E. T. Dalton: The Kols of Chota-Nagpore, with Notes on the Oraon language by Rev. F. Batsch. \*
5. From the Punjab Auxiliary Branch of the Asiatic Society of Bengal: two Notes on visits to Cashmere, by Major D. F. Newall, R. A.
6. From F. S. Growse, Esq., C. S.: some objections to the modern style of official Hindustani.

The Secretary read some extracts from Mr. Johnson's report on the Survey Operations of the Cashmere series, giving an account of the writer's visit to Ilchí in Khotan. The following is a brief abstract of some portions of the paper:—

The author's route to Ilchí in Khotan was from Leh by the end of the Pangong lake and over the Másimik Pass to the Chángchénmo valley. Thence crossing the Lúm-káng Pass, he proceeded in a northerly direction on high extensive table lands, "which might be called

plains in comparison with the rugged ranges of the Himalayas, for they have a greater extent of level than of hilly ground, and the hills are low, and have such easy slopes that a horse may be galloped over them everywhere." These plains are at an elevation of from 15,300 to 17,300 ft. and extend up to the foot of the Kíun Lun. To the east and south-east, the author noticed other plains of considerable extent, which are believed to merge into the Chángtháng plains of Rudok. To the west there were no plains, but a series of deep valleys, in which are the sources of one of the principal affluents of the Kárakásh river. Proceeding northwards from the plains abovementioned, the author struck the Kárakásh river at a point six miles west of the G. T. station on the Kíun Lun, E. 57, (lat.  $35^{\circ} 53' 36''$ ; long.  $79^{\circ} 28' 32''$ , height 21,767 ft.) and 25 miles to the N. W. of its source; which is in a spur of the Kíun Lun, separating the valley of the Kárakásh from the plains crossed by the travellers. The author learnt from native information, that the Kíun Lun stretches in an easterly direction for about 100 miles from the source of the Kárakásh, and then terminates in an extensive plain, which communicates with the Cháng-tháng plain: further, that by skirting the Kíun Lun range, wheeled conveyances might be taken easily from Ilchí to the Chángchénmo valley near Leh.

After a stay of some days on the Kárakásh, which the author employed in visiting several peaks and fixing points for the continuation of his survey across the Kíun Lun, he proceeded, on the invitation of the Khán of Khotan, to Ilchí, a journey of 16 days due north, and by very difficult roads. The whole country of Khotan north of the Kíun Lun range, including seven pergunnahs of Yárkand, which had submitted to the Khán of Khotan during the author's stay in Ilchí, is an immense plain, sloping gently downwards to Akstí, fifteen long marches north of Ilchí. The entire plain is watered by numerous streams and some large rivers, which are the principal affluents of the Tárim or Argol river, which in its turn disembogues into the great Lake of Lob Núr. The whole country is irrigated by canals from these rivers. Six miles north of Ilchí is the great desert of Taklá Makán (Gobi), the shifting sands of which are said to have buried 360 cities in the space of 24 hours. Brick tea is dug out of one of these cities in large quantities, and finds a ready sale in Khotan, now that all trade with China is stopped.

Khotan, which was formerly a province of China, is now independent, the Mahomedan population of Yárkand, Khotan, Káshgár, and other provinces of Central Asia having, in 1863, massacred all the Chinese in those provinces, except a few who adopted the Mahomedan religion. The population of Ilchí is about 40,000, and that of the whole country of Khotan about 250,000, the females preponderating over the males to the extent of 20 per cent. They have a slight Tartar cast of features, and speak the Turki language; they appear to be very strict religionists.

The chief grains of the country are Indian corn, wheat, barley, bajra, jowar, buckwheat and rice, all of which are superior to the Indian grains, and of fine quality, the climate being mild and equable in temperature, with moderate rain in slight showers occasionally. The country is described as being superior to India, and equal to Káshmir, over which it has the advantage of being less humid. Cotton of good quality, and raw silk are produced in large quantities. The principal forest trees are the poplar, willow and tamarisk, and between Khotan and Aksú, for a distance of twelve marches, there is such a dense forest of them, that travellers are said to have lost themselves in it. The whole country is very rich in soil, and produces splendid grass, but the greater portion is waste, for want of inhabitants, and the present produce is more than sufficient for the wants of the population.

The Khán of Khotan has an army of 6,000 infantry and 5,000 cavalry; and a large artillery force, commanded by the Khán's sons and a Pathan from India.

From Ilchí the author visited Kíriá, about 40 miles east of Ilchí, and the site of an old city near Urangkásh, from which the brick tea is exhumed. He met with great difficulty in taking observations for fixing the latitude, as the Khán, although he offered no objection to the use of the plane-table, was decidedly opposed to astronomical observations, saying that his courtiers considered it might be preliminary to the country being taken possession of by the British Government. The author was, however, invited to visit Yárkand and take possession of it in the name of the British Government, and was informed that the inhabitants had clubbed together and collected three lakhs of rupees and *khilats* as a present, if he would take up the

governorship of Yárkand, as they were tired of anarchy, confusion, and constant warfare with one another, and oppression at the hands of the Khokánees.

After a stay of sixteen days, the author was allowed to take his departure, and after a rapid march to Luk in the Yárkand territory, and about 36 miles east of the city of that name, he returned to Zilgiá, and thence proceeded viâ Sanjú to Shádulá, the guard house on the frontier of the Maharajah of Kashmír, and so southwards to Leh.

The paper was illustrated by a sketch map, shewing the author's route; and was accompanied by several Itineraries, partly derived from native information.

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Extracts from a note by Colonel Walker on the subject of the above paper were read, as follows :—

“The position of Yárkand as assigned by Montgomerie differs by about 200 miles in longitude from that assigned by the Schlagintweits. I think Montgomerie's value is a full degree in longitude too much to the east. We know the distance between Yárkand and Káshgár pretty fairly, and we know the position assigned to Káshgár by Russian officers. If Montgomerie is correct, the position of Káshgár must be considerably altered.” With reference to Mr. Johnson's paper he remarks, “It is the most valuable contribution to the geography of Central Asia, that has been made, for several years, by anybody in India.”

The Chairman, in proposing that the thanks of the meeting be voted to Mr. Johnson, observed as follows :—

“The paper which has just been read by our Secretary, Mr. Blandford, seems to possess very considerable merits. The country which Mr. Johnson describes certainly exhibits many remarkable features. Whether we consider it in reference to its contiguity to three distinct kinds of civilization, that of China on the one side, of the Russian Empire on another, and of England or rather British India on the third, that is to the south and south-west : or whether we look at its somewhat isolated position on the high plateau of Central Asia : or, again, if we turn to the character for good looks and personal beauty which the author gives to the inhabitants, so little to have been anticipated *a priori* in a people said to have a close connection with the

Chinese and the Turanian races ; or to the singular fertility (unequalled in this part of the world, unless perhaps by that of the valley of Cashmere,) which is displayed on one side of Khotan, contrasted on the other by that phenomenon, which is, I believe, in some respects still a puzzle to geologists, namely, the growing desert ; or lastly, to the important political questions which are proposed by the author :— in whichever of these aspects we regard the subject of Mr. Johnson's paper, it appears to me to afford us many topics of unusual interest, and I have great pleasure in now inviting discussion upon them."

Mr. G. Campbell and Mr. W. T. Blanford offered a few remarks on the paper, and the thanks of the meeting were unanimously voted to the author. -

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR SEPTEMBER, 1866.



The meeting of the Asiatic Society of Bengal was held on Wednesday the 5th September.

The Hon'ble G. Campbell in the chair.

The proceedings of the last meeting were read and confirmed.

Presentations were announced—

1. From A. Grote, Esq., two specimens of *Euhydria Bengalensis* : one specimen of *Lepus Ruficaudatus* : one newborn foal of *Equus Caballus* : three eggs of *Colotes versicolor* : four specimens of live Geckos : and one of a Python.

2. From Mrs. H. Mackenzie of Bangalore, through Mr. Grote ; an abnormal skull of a dog from North China.

3. From Lieut.-Col. J. E. Gastrell, a map of Central Asia, compiled in 1866.

4. From A. M. Fergusson, Esq., a chart shewing a summary of information regarding Ceylon.

Skins of the *Bos Gaurus* and the four-horned antelope were exhibited by Mr. W. T. Blanford, who offered some remarks on these specimens and on the distribution of the animals frequenting the Sal Forests.

The following gentlemen proposed at the last meeting were ballotted for and elected as ordinary members :—

Capt. F. S. Sherer.

Lieut.-Col. H. Ballard, C. B.

A letter from Rajah Apurva Krishna, intimating his desire to withdraw from the Society, was recorded.



The Chairman read a communication from Mr. Temple, with an enclosure from Col. T. Spence, regarding the collection of aboriginal specimens of the human race, at the approaching Jubbulpore Exhibition. He said,—

“I am glad to be able to inform the Society that our efforts for the establishment of a system of Ethnological exhibitions are likely soon to bear practical fruit. In these things, the first step is the most difficult; and if we once make a commencement, the rest will follow. Knowing that Mr. Temple, Chief Commissioner of the Central Provinces, proposes to hold an Exhibition at Jubbulpore next Christmas week, and believing Jubbulpore to be the centre of a country abounding in the most interesting aboriginal races, I suggested to him the advantage of adding a human department to his exhibition. Mr. Temple is a man always ready to take the lead in any movement in advance: he acts, while others only think. The letters which I will now read will show that he has accepted our suggestion.

“They run as follows:—

*“The Residency, Nagpore,  
5th July, 1866.*

“MY DEAR CAMPBELL,—In reference to your Ethnological suggestion: I enclose an extract copy of a note from Spence.

“I have told him to get the Exhibition Committee to see whether a little lucre may not tempt these wild creatures to come into the station and be clothed, and shewn off for the edification of their more civilized fellow-humans.

*(Extract from Col. Spence's letter.)*

“With reference to the proposal for getting up an Ethnological Exhibition as an addendum to the Exhibition at Jubbulpore, which forms the subject of your letter of the 20th instant, there is no doubt that there are many interesting races in various parts of this division: but I fear it would be very difficult, if not impossible, to get specimens of these races collected at Jubbulpore, for they are as wild as the jungles and hills which they inhabit; and are so suspicious, that they would be sure to think we must have some mysterious object in view. If we could manage to bring some of them in, we should be obliged to provide clothing for most of them: at least I can say that when I was in the Mundlah District in January and February

last, one of the most characteristic specimens of the Bygah race I saw there, boasted of nothing more in the way of clothing, than a green tassel, and a powder-horn, which, however cool and airy, was scarcely sufficient for decency! I shall do what I can, to have men belonging to as many different races as possible collected at the Exhibition; and should any scientific men desire to make an examination of the heads and general conformation of any of these specimens of the human family, our Committee will give all the assistance that can be rendered without risk of causing annoyance or apprehension, which we must, of course, be careful to guard against.'

'A. BLOOMFIELD.'

- True copy,

"You will see that Col. Spence, notwithstanding the difficulties suggested, hopes to get some very interesting specimens; and Mr Temple proposes to get over Col. Spence's difficulties by a little judicious bribery. Of the existence of races of the wildest and most curious types, there can be no doubt. The Bygahs mentioned by Col. Spence are new to me. In those parts, the Gonds are a sort of superior and dominant aborigines, perhaps conquerors; and the Bygahs and other extreme savages are no doubt the vestiges of more primeval races, and must be of the very greatest interest.

"With respect to the clothing, I would only suggest that I think we should prefer to have them in their native and characteristic shape without it. As cleanliness comes after godliness, so I think that decency must come after science; at any rate I would only satisfy the most inevitable demands of decency.

"I would then strongly recommend all those members of the Society who take an interest in the subject and have the leisure, to arrange to be at Jubbulpore at Christmas, and to be prepared to make the most of the aboriginal gentlemen whose acquaintance they will have an opportunity of making. I propose that the Society communicate to Mr. Temple and Col. Spence their warm thanks for the way in which they have taken up this matter.\*"

This proposition being put to the vote was carried unanimously.

\* The morning after the Society's meeting, Mr. Campbell received a communication on this same subject from the Secretary of the Jubbulpore Exhibition, and the opportunity is taken of publishing it with these Proceedings, to show that the matter is actively going forward. The aboriginal classes mentioned by the Jubbulpore Committee include all the most important

The chairman then read a letter from the Rev. Mr. Jaeschke communicated by Mr. F. Cooper, C. B., regarding the languages of the North Himalayan Frontier, which he introduced with the following remarks :—

aboriginal families of Central India. Mr. Campbell has only been able to suggest the addition of some 'Bhooyas' and some of the wildest Kol tribes from Sumbulpore. The Gonds from beyond Belaspore and Chutteesgurh are much more savage and primeval than those of Jubbulpore. Mr. Campbell has also asked whether search could be made in a westerly direction for the 'Sherrias' of the sources of the Chambul, mentioned in a paper read to the Society last year, and also whether some of the purer specimens of Bombay Koles could not be brought up for comparison with the others.

Mr. Campbell has farther suggested that, situated as Jubbulpore is in the very centre of India, it would be very interesting to place in a conspicuous position characteristic specimens of the different civilised and semi-civilised races found in the Central Provinces. Jubbulpore and the country to the north would supply the Hindustanee tribes and castes. In Nagpore proper and the country to the west and south are the Mahratta races—and in the extreme south-east districts, down the Nerbudda, is a Telinga population.

Nagpore ' ' ' 1866.

MY DEAR MR. CAMPBELL,—I think it was at your ' ' ' the Jubbulpore Exhibition Committee first decided to collect ethnological specimens at Jubbulpore this Christmas. You may therefore like to see what they propose to do.

If you could offer any suggestions for improving the human show, they would be gratefully received.

I hope you are to be there yourself to see.

Yours sincerely,  
C. BERNARD.

HON. GEO. CAMPBELL.

*Extract from Exhibition Committee's letter.*

"Our ethnological arrangements may at present be told in a sentence. District Officers were addressed in a circular, a copy of which was furnished you. The only replies received are from Dennys, Deputy Commissioner of Seonee, and Troyford, Deputy Commissioner of Baitool. Dennys can bring some wild specimens perhaps, but asks us to pay Rs. 5 each for them, a question we put on one side, till we see what other Deputy Commissioners will do. I have been talking over the matter with Pearson. He thinks we might get specimens of the following wild tribes without much difficulty.

Gonds.  
Koorkoos.  
Bygahs.  
Bheels.  
Kols.

"Are there any other wild tribes we can lay hands on?"

"The value of single specimens would, I presume, be small. We will try and get a family of each.

"The Gonds could be got near at hand. But it may perhaps be worth while fetching a family of them from Belaspore, and another from the upper Godavery, in order to mark diversities, (supposing they exist). Koorkoos from Hoshungabad; Bygahs from Mundla and Belaspore; Bheels from Nimar, and Kols from Bagerajogurh.

"I will ask the Deputy Commissioner of these Districts, if they can get us a family of each. We shall have to feed our biped specimens, no doubt. And when they are here, we will photograph them. The scientific observation part must be done by visitors. Cumberledge will be asked to send some specimens from Sumbulpore."

"I have received from Mr. F. Cooper, C. B., resident in Kashmere, a communication from the Rev. Mr. Jaeschke, Missionary in Lahoul. He does not seem to have any personal acquaintance with the Kashmere countries, and his criticisms on our Proceedings are principally derived from books. He advocates the claims of the snowy peaks North of Almorah and north-east of Lahoul to be the great and small *Kailas* of the Hindoos, but eventually he comes to a conclusion in which I am much disposed to agree, viz., that the word was applied vaguely and generally to "unknown heights." If so, the snows of 'Nanga Parbat' and the surrounding country west of Kashmere may properly, claim the name without interfering with rival claimants. Mr. Jaeschke is, however, certainly wrong in assuming that there is no modern country of 'Chilas,' because he says he finds from the map that 'Chilas' is only a single village. He admits that his great authority, Cunningham, applies the name *Kailas* to the whole range covering this part of the country, but he adds 'only as a scientific proposal, from want of another name.' This is quite a mistake, General Cunningham rightly applied the name, only correcting *Chilas* to *Kailas*. I can testify from personal observation that the country up there is just as well-known as 'Chilas' as 'Bengal' is known down here.

"Mr. Jaeschke advocates the claim of the ancient name 'Dardee' to be applied to the languages of those parts. If it is preferred, I have not the slightest objection. I only wish to get the language, by whatever name we call it.

"More important are Mr. Jaeschke's remarks regarding the country which he himself knows. He says—

'All this does not affect the usefulness of the proposal of Mr. Campbell for the sake of philological science in general, and it would undoubtedly be a great gain to it, if all these dialects and languages were thoroughly explored by competent scholars, and more especially those which may be supposed to be of unmixed Aryan descent. As for myself, I am greatly obliged to you for the sending of the papers concerning this project, but my aid to the object in view will necessarily be very scanty, or nothing at all, as my principal study is confined to Tibetan; and the two or three hill dialects of this neighbourhood, which have little or no affinity with Tibetan, have,

as far as I know, not any more with Kashmere, or the Dardee dialects. I intend to make some more accurate enquiries into the Balte dialect, which seems to be Tibetan mixed up with a great deal of Persian and other foreign words, as well as into the above *non-Tibetan languages* of this valley, as far as my other duties leave me time for it; but I don't think this to be in any connection with the desires of the Asiatic Society, as defined in the papers before me. Proceedings, &c., p. 48."

"Now Mr. Jaeschke is quite mistaken in supposing that the non-Thibetan languages of his neighbourhood do not come within the scope of our inquiries. We did not specify them, because we did not know of their existence. But nothing can be more important than the existence in these most remote valleys, secluded among the eternal snows, of non-Thibetan languages. These must be among the most ancient traces of the world's history, and whether they prove to be Arian in their character, or whether they are allied to any aboriginal tongues of India, they will mark one of the earliest forms of human speech. Sir Donald Macleod expressed to me in conversation a suspicion that the name of Kooloo (the valley south of Lahoul) came from the old aboriginal word 'Kol,' 'Kolee' or 'Coolee,' but I do not know if this has been confirmed. At any rate the exhumation of those fossil languages of the valleys, separated for thousands of years by snow and enormous mountains from all the rest of the world, would be the very greatest service to science. I propose that we thank Mr. Jaeschke through Mr. Cooper for his communication, and express to him our earnest hope that he will communicate to us information regarding the non-Thibetan languages alluded to by him."

The receipt of the following notes by Mr. J. Beames, on the Sanscrit "*Om*" and Hebrew "*Amen*," and Prof. Blochmann's reply to the above was announced and ordered to be printed in the Proceedings.

Mr. Beames writes as follows:—

"I do not think there is any connection between the Sanskrit *om* and the Hebrew *amen*, for:—

1st. The word *amen*, which is found in all Semitic languages, is a verbal participle of the verb *aman* (Arab. Syr. Eth. the same),

meaning originally "to support or prop;" then, "to carry a child in the arms," in which sense it occurs in Numbers xi. 12, where the words are "*caasher yissá há-omén eth-há-yonek*," i. e. "as a foster-father carries a child." Our authorized version renders the word *omén* (the present participle) by "nursing-father," and Gesenius aptly compares the use of the Greek word *παιδαγωγός*.

The cognate word in Arabic is *علا* to nourish, and we are thus led to seek the original biliteral Semitic root in the syllable *man*, and to regard the *a* initial as a later addition.

Although, as Mr. Blochmann says, an accessary *n* may be traced in some biliteral roots, yet a prosthetic *aleph* is far more common; and in treating of a point so far removed beyond the historic period of language, we must not confound grammatical with radical processes. Mr. Blochmann seems to be doing this; he seems to be thinking of verbal derivatives in *on* or something of that sort.

The Arabic root *mána* leads us to *bánah* 'to build,' whence *ben* 'a son,' and the original signification is thus closely connected on all sides with the ideas of erecting, supporting and confirming.

Thus although the Sanskrit compound *oman* and the Hebrew uncompounded word *amen*, have at first sight some surface similarity, yet it is evident on a little enquiry that in the Sanskrit word the idea of *confirming* lies in the syllable *ao* or *o* the syllable *man* being merely a grammatical addition;—while in the Hebrew word the idea of *confirming* lies in the syllable *man* or *men*, the syllable *a* being merely prosthetic. To connect the two words then philologically, we should have to establish a community of origin between *ao* and *man*, which is a difficult, if not an impossible task.

2nd. The word *amen* is found in its sense of "so must it be," as early as Numbers v. 22, in the description of the ordeal by holy water as applied to women suspected of infidelity.

The priest repeated the curse, and the woman answered "amen, amen;" meaning, "If I be guilty, may the curse take effect on me."

Again in Deuteronomy xxvii. 15, where, in the hearing of the whole nation, curses were pronounced on those who should break the law, at the end of each curse, "the people answered and said, 'amen,' i. e., 'so mote it be.'"

Now whatever antiquity we ascribe to the Pentateuch, we cannot

well put it later than 1200 B. C., and I suppose Sanskrit scholars claim a still higher antiquity for the Vedas; but the word *om* being a corruption of *oman*, the origin of this latter word must be put further back still, just as the use of the Hebrew *amen* in a work dated 1200 B. C., points to its existence at a much earlier age. If then we have succeeded in shewing the improbability of the two words having a common philological origin, we must next have recourse to the supposition that one nation borrowed the word from the other, and the idea of the Beni Israel at, say, B. C. 2000, having any means of communication with the authors of the Veda is out of the question.

That at an extremely remote pre-historical period, the ancestors of the Semitic race were identical with those of our own Aryan family is possible, nay, probable; but the acutest modern scholars, Gesenius, and Renan for instance, fail to find in Hebrew, more than the very faintest traces of a common origin. When the scholars quoted in Babu Rajendra Lal's note render *om* by *amen* they do so evidently merely as to sense, and do not imply that there is any radical affinity between the two words.

3rd. There is no authority for Mr. Blochmann's assertion that the initial *a* in *amen* is a softening, through an intermediate 'ain, of a *k* initial. The whole process of derivation given by Mr. Blochmann appears to me to be fanciful and unsupported.

The word *amar*, 'to speak,' is by Gesenius, who is followed by most scholars, held to be another instance of an *aleph* prosthetic; so that the root is *mar*, which is a softening of *bar* 'to bear;' *mar* therefore means 'to bear,' 'to bring forth,' 'to bring out words from the mouth,' 'to speak;' hence in Arabic we get the sense 'to command,' which is derived from the earlier Hebrew sense, and is not, as Mr. Blochmann suggests, the original meaning: for, not to lay much stress on the improbability of the process by which the idea of 'establishing, commanding' is made to change to the idea of simple speaking, it may be noted that, in Hebrew, the idea of words as something carried or brought out of the mouth, is very common. Instances are the expressions *nâsâ kol*, "he lifted up his voice" applied to weeping or singing, (Num. xiv. 1 and *passim*); also shouting; and lest it should be urged, that these expressions refer to raising the voice to a loud

pitch, I would refer to Exodus xxiii. 1; "*lo tissá shemá shávè*" thou shalt not utter a false report," where no idea of raising the voice can be entertained.

4th. The reference to the misty idea of the Rabbis proves nothing. The jugglery of those quasi-learned persons has long been looked upon by scholars as unworthy of attention. If the word *amen* were really a compound of "*Elohim melek nëmán*," which is, I suppose, what the Babu (or his authority rather) means, then any philological connection between the syllable *am* looked on as a radical Semitic syllable and *om*, falls to the ground at once.

"I think, therefore, that from a Semitic point of view, any connection between the two words is impossible, and the Babu's idea, that some mysterious importance was attached to *amen*, is a mistake. *Amen* is the Hebrew for "yes" and nothing more. The Evangelists often leave a word or two of our Saviour's native Syriac, when translating his sayings into Greek, and this is one; and from its being retained in the Gospels, it has come to form part of modern Christian ecclesiastical phraseology, but never had, or has, and probably never will have any mystic meaning.

JOHN BEAMES.

Mr. Blochmann's note in reply is as follows:

"Mr. Beames in his paper endeavours to correct a remark made by me some time ago on the word "*amen*," which Babu Rajendra Lal Mitra had compared with the Sanscrit *om*.

"Mr. Beames and I agree in three points:—

1. That there is no connection between *amen* and *om*, as proposed by the learned Babu.
2. That the original meaning of the biliteral root in *aman* is *supporting*.
3. That the ultimate roots of the Shemitic languages are *biliteral*.

"The point of difference between us is that Mr. Beames says, that of the triliteral *aman* the original biliteral root is *man*, the Aleph being accessory, whilst I still maintain, that the biliteral *am* is the ultimate root, the final *n* being the accessory.

"Mr. Beames does not appear to have seen this, because he misunderstood altogether the term "accessory." He advises me not to confound grammatical processes with radical ones, evidently under the



erroneous idea, that I considered the final *n* in *aman* as related *f. e.* to the *n* in سليمان, Gib'on (root gaba'), حيران from the root حار, or in ruhónó from rúh. But to mix up the etymological *n* in derivatives with the 3rd radical *n* in trilateral roots is a monstrosity, of which I certainly never thought. By an accessory, I mean that 3rd letter, which Mr. Beames and I do not consider as belonging to an ultimate biliteral root. I might have called it the modifier of the idea of the root. Thus the ultimate root قط, which people quote so often, has yielded many trilateral roots as قَطَم, قَطْل, قَطَر. In calling the م, ر, ل, ع accessories, I do not consider قطع as a compound or grammatical process (?) of the biliteral قط, but I maintain, that the syllable قط contains the general idea of cutting and that the accessories reduce the general idea of cutting to a particular kind of cutting. Thus the letter م, which we pronounce by *closing* our lips, superadds to every Shemitic verb ending in م, the idea of *closing*. The syllable قط means cutting generally, and قَطَم must combine the meanings of cutting and closing. On referring to the Dictionary we find that قَطَم is applied to cattle tearing off grass with their lips. (*Freytag: extremis dentibus prehendit et gustavit*).

"I trust Mr. Beames will now understand the term accessory or modifier. I need not here explain the modification produced by the accessory *n* in '*aman*,' as Mr. Beames holds a different view. But I must ask Mr. Beames, to let me know the meaning of his prosthetic Aleph. For if it be a true axiom that language forms nothing *uselessly*, and if the syllable *man* be the ultimate biliteral root of *aman*, the first Aleph must exercise some influence on the general meaning of the biliteral *man*, which Mr. Beames will now have to explain. To call it a prosthetic Aleph merely, implies nothing, and is besides, to say the least of it, a misnomer. For the term prosthetic is given to the Aleph in افلاطون for Plato, *eshkól* a grape for *shkól*, &c., and is purely euphonic. But the syllable *man* is so easily pronounced, that no language on earth would put a prosthetic Aleph before it.

"Mr. Beames calls my proposed etymology, "fanciful" and "unsupported." I pass in silence over the former epithet, but I shall prove that the latter was applied too hastily. If Mr. Beames will kindly refer to the root كَشَرَ in Gesenius' Lexicon, he will find it compared with, and of similar meanings as, عَשَرَ, يَشَر, and أَشَرَ;



3. From Lieut.-Col. J. E. T. Nicholls, Officiating Secretary to the Government of India, Public Works Department. Further communications on the Earthquakes of the 23rd May last.

4. From Baboo Gopinath Sen "Abstract of the Hourly Meteorological Observations for April and May, 1866."

5. From D. Waldie, Esq., experimental investigations connected with the water supply to Calcutta.

6. Contributions to Indian Malacology; No. VII. A list of species of *Unio* and *Anadonta* described as occurring in India, Ceylon and Burma. By William T. Blanford, Esq. A. R. S. M.

Mr. Waldie read some extracts from his paper on experimental investigations connected with the water supply of Calcutta, of which the following is an abstract.

Mr. Waldie commenced with some introductory remarks on the attention given of late years by civilized communities to subjects bearing on the preservation of health, and among these to the wholesomeness and purity of the water required for domestic use; also of the special interest taken in this subject at the present time by the inhabitants of Calcutta, in connection with the supply of water for the town; observing that though he himself had engaged a considerable time ago in an analysis of the water of the Hooghly, it was not at all in connection with this subject, but only as a contribution to general science; but that some of the results obtained had induced him, on account of their local interest, to bring them under the notice of the Society. He then referred to Dr. Macnamara's report on the Hooghly water to the Municipality, stating that, in general, his own results went to confirm those of the Report: in some particulars, not of small importance, they differed; and that in others he probably had added to the stock of information on the subject.

After glancing at the influence of the seasons on the river, the author referred briefly to the variations of the mineral constituents of the water at the different seasons, and the influence of the tides during the hot season. His own observations had been chiefly made on water from the river about two or three miles above the entrance of the Circular canal at the north of the town. They agreed generally with those of the Report referred to. For particulars and observations he referred his hearers to the paper, which would be published *in extenso*

in the Journal. He remarked on the great difference between the quantity of salt brought up by neap tides and by spring tides, the former bringing only about one-fourth of the salt the latter did : also on the difference depending on the time of tide, that being also great. The smallest quantity of salt was found at about the last two hours of ebb, and the first one or one and half of flood tide. Excluding the period of three or four months when the influence of the tides prevailed, the river water was on the whole purer, or contained less saline matter than that of any of the water companies supplying London as represented by the latest reports.

Attention was then directed towards the organic constituents of the water, which, with reference to sanitary considerations, were the most important impurities. Some remarks were made on the very incorrect processes which had been frequently employed by chemists for ascertaining the quantity of these, and the very unsatisfactory nature of the results. The process, however, had been improved of late, and with the aid of a fine balance, patience and care gave very fair results. By such means the author had determined the amount of organic matter in the river water at various seasons, but the results obtained were very different from those given in Dr. Macnamara's report, being very much smaller, more particularly in the case of the water in the hot season. On account of the difficulties attending the correct determination of organic matter by weight, a new process had of late come into favour, which was much simpler and easier of execution. This depended on the oxidising properties of the permanganate of potash. A weak solution of this, of known strength, was added with certain precautions to a measured quantity of water, until a slight shade of pink colour remained for a certain time. The purer the water, the less of the permanganate solution is required; the greater the quantity of this solution required, the more impure is the water; so that by delivering the solution from a graduated tube, the quantity required can be ascertained, and consequently the amount of impurity estimated, or rather the quantity of oxygen required to destroy it. This test does not indicate all the organic matter, only some kinds of it; but it acts on those kinds of organic impurities which have an offensive smell and destroys them. The results of the estimation by weight of the organic matter and of the amount of oxygen required by this test

were in pretty fair accord, and agreed in indicating most organic impurity in the water of the rainy season, decreasing continuously after the rains, as the season advanced. This decrease was not so well observed in the weight, which was indeed greater during May and June, but only to a small extent; and this, it was considered probable, might be rather apparent than real, and owing to practical difficulties in the process and the large quantity of saline matter from the sea mixed with the water. At all events, according to the author's results, the amount of organic matter in the river water on the 14th June last, at flood tide, at the extreme height of the hot season, was only from 1 to  $1\frac{1}{2}$  grains per gallon. These results were very different from those generally received, which supposed a minimum of organic impurity during the rains, gradually increasing, and during the hot season rising to eight, ten, or even more grains per gallon. But they were quite in accordance with the latest results of the examination of the London waters by Professor Frankland, who found that "the waters in question are much purer in dry than in wet weather, even if the drought occurs during a very hot summer." And on consideration it is found to be in accordance with what may be expected. During the whole dry season, both cold and hot, the products of vegetable and animal decomposition have remained in the soil and accumulated, but when the rains come they are washed off into the river, both in solution and suspension. When the rains cease, the impure mud subsides, and the oxygen, freely absorbed by running streams, oxidizes the organic matter in solution and purifies the water.

The nature of the organic matter was then enquired into,—namely, its vegetable or animal origin. The latter was considered the most dangerous kind, and the means of judging of its presence considered. The presence of Ammonia was considered a good indication of the existence of animal matter, and some examinations for determining its proportion had been made; the proportion in the Hooghly water was small. Other means of estimating the amount of animal matter indicated the same thing.

The question as to the extent of contamination of the river water during the hot season under tidal influence, by the sewage of the town was considered, and the author had come to the conclusion that at the very height of the hot season the water was no worse, as regards

organic impurities, or not so bad as it was during the rainy season. This conclusion, he considered, was supported by the result of some examinations of the tank waters, of which several had been subjected to partial analysis, and all of them, even the best, found to contain more organic impurity than the river at its worst. Their stagnant water was not subjected to the purifying influence of atmospheric oxygen as that of the running stream was.

The general conclusion arrived at by the author was that, if his results were correct, the river was a better source of supply than the tanks, and that probably the principal advantage of taking the water from Pultah was the avoidance of the sea water brought up by the tides during the hot months.

The following Books have been added to the Library since the meeting held in May.

#### LIBRARY.

##### *Presentations.*

\*\*\* The names of Donors in Capital.

Rig Veda Sanhita, ऋग्वेदसंहिता, by Professor Max Müller, Vol. IV.  
—THE BENGAL GOVERNMENT.

Erster und Zweiter Jahresbericht des Vereins für Erdkunde zu Dresden.—THE GEOGRAPHICAL SOCIETY OF DRESDEN.

Erster Jahresbericht des Naturwissenschaftlichen Vereins zu Bremen.—THE SOCIETY OF NATURAL SCIENCE OF BREMEN.

The Introduction of Chinchona cultivation into India, by C. R. Markham, Esq.—THE AUTHOR.

Address of the native nobility and gentry of Lahore to the Hon'ble F. D. McLeod; and his reply.—THE PUNJAB GOVERNMENT.

The Punjab Educational Magazine, Vol. I., Parts 11 & 12.—THE SAME.

The Isothermal and Meteorological Chart of India and High Asia, by Profr. H. de Schlagintweit.—THE INSPECTOR GENERAL MEDICAL DEPARTMENT.

Annual Report (Fifth) of the Agri-Horticultural Society of Oudh.  
—THE SOCIETY.

Gayá Māhātmyam, गयामाहात्म्यम्, by Tārāchānd Sharmā.—BABU ISHĀN CHANDRA BOSU.

Census Report of Calcutta, for 1866.—THE BENGAL GOVERNMENT.  
Sketches of the Shevaroy and Pulni hills, by Lieut.-Col. D. Hamilton.—THE MADRAS GOVERNMENT.

List of vertebrated animals living in the gardens of the Zoological Society of London.—BABU RAJENDRALÁLA MITRA.

Selections from Papers on Indigo cultivation in Lower Bengal.—BABU RAJENDRALÁLA MITRA.

Catalogue of the Central Library, Roorkee Civil Engineering College, by H. B. Medlicott, Esq.—THE ROORKEE COLLEGE LIBRARY.

Ajunta Inscriptions, by Dr. Bhaudaji.—THE AUTHOR.

Sah or Rudra Dámá Inscription on a Rock at Junagur; also of one of Skandagupta on the northern face of the rock.—THE SAME.

Catalogue of the Meteorites in the Museum of the Geological Survey of India.—THE SUPERINTENDENT OF THE GEOLOGICAL SURVEY OF INDIA.

The Sacred Books of the Buddhists, compared with History and modern Science, by S. Hardy, Esq.—THE AUTHOR.

Summary of Information regarding Ceylon, (a chart,) compiled by A. M. Fergusson, Esq.—THE COMPILER.

Veiviser ved Geologiske excursioner i Christiania Omegn, von Profr. L. T. Kjerulf.—THE AUTHOR.

Om Vægtlodderne i Nummelandsfundet, af Profr. C. A. Holmboe.—THE AUTHOR.

Om gul og rød Jord i Gravhøie, af Profr. C. A. Holmboe.—THE AUTHOR.

Om de i Norge Forekommende fossile dyrelevning fra quartærperioden, af Dr. M. Sars.—THE AUTHOR.

Norges Ferskvandskrebssdyr, von M. G. O. Sars.—THE AUTHOR.

Norges Mynter i Middelalderen, von Profr. C. A. Holmboe.—THE AUTHOR.

Maps of Jamo, Kashmir and adjacent Districts; North Eastern Frontiers of Bengal; District of Jhelum and Rawal Pindee; and the Central Provinces.—THE SURVEYOR GENERAL'S OFFICE.

Statements of Weekly Meteorological Returns in the District of the North Western Provinces.—THE GOVERNMENT OF THE N. W. PROVINCES.

The Indian Museum and the Asiatic Society of Bengal.—BABU RAJENDRALÁLA MITRA.

Report of the Nagpur Exhibition of Arts, Manufactures and Produce.—THE COMMISSIONER OF NAGPUR.

Report of the Superintendent of the Government Observatory, Colaba.—THE SUPERINTENDENT OF THE COLABA OBSERVATORY.

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#### *Exchanges.*

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Description de l'Afrique et de l'Espagne, par M. J. Goeje.

Jacut's Geographisches Wörterbuch, von F. Wüstenfeld.

Grammaire Javanaise, par L'abbé P. Favre.

Sawitri, von F. Rückert.

Die Völker des Oestlichen Asiens, von Dr. A. Bastian.

Les Zodiaques de Denderah, par F. J. Lauth.

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Sanscrit Grammar, by Professor Max Müller.

Practical Grammar of the Sanscrit Language, by M. Williams.

De Vogels van Nederlandsch Indie, par H. Schlegel, Monographs 1, 2.

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Die Märchen des Siddhi-Kür, von Bülg.

Die Indo-Australische Lepidopteren-Fauna, von G. Koch.

Ibn Mâlik's Lâmfyat al Afâl, von Dr. W. Volock.

Etude sur les Origines Bouddhiques, par G. d'Eichthal.

Cosmographie de Chems-ed-din, par A. F. Mehern.

Wilson's Works, Vol. VI; the Vishnu Puran.

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR OCTOBER, 1866.



Plates II. III. and IV. illustrating the chipped agates from Central India, will be issued with a future number when ready.

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...ology of India, for distribution.

The following report of the Philological Committee recommending the publication of the *Āyin-Akbary*, was read; and adopted by the meeting.

REPORT.

The Council beg to report that they have made arrangements for the publication of a new and carefully collated edition of the *Āyin-Akbary* in the new series of the *Bibliotheca Indica*.

The materials available for the work consist of nine MSS., viz. :—

1. A MS. belonging to Nawab Ziyáuddín.
2. A MS. belonging to Colonel Hamilton.
3. A copy of the lithographed Delhi edition.
4. A copy forwarded by Mr. Ward.
5. A copy (parchment) belonging to the Asiatic Society.
6. Do. do. do.
7. Do. do. do.
8. Do. do. do.

9. A copy belonging to Sayyid Faqíruddín. No. 2, is an old and very valuable manuscript, supposed to have, at one time, belonged to the Emperor Shah Jehan.

The cost of printing the work has been estimated at Rs. 9,000, more than half of which will be covered by a special grant of Rs. 5,000, which has been sanctioned by Government, on condition of the Society placing at its disposal 250 copies of the book when completed.

It will be edited by Mr. H. Blochmann, under the superintendence of the Philological Committee.

By order of the Council,

RÁJENDRALÁLA MITRA,

*Phil. Secy. Asiatic Society.*

27th August, 1866.

The following gentleman was nominated for election as an Ordinary Member at the next meeting:—

Kumár Harendra Krishna Báhádur; proposed by Bábu Rájendralála Mitra, seconded by Mr. Grote.

Bábu Rájendralála Mitra read the following remarks on the papers by Messrs. Beames and Blochmann on "Om" and "Amen," submitted at the last meeting.

"I had expected to have been present at the Society's meeting in September last, and to have made a few remarks on the papers, then submitted, from Messrs. Beames and Blochmann, on the etymology of the word *Amen*; but I was unavoidably prevented almost at the last moment; I take this opportunity, therefore, of noticing a few salient points in the discussion raised by those gentlemen.

In my observations on the subject in March 1865, I said that the facts then stated, led me "to the conclusion that the two are the same, or dialectic varieties of the same word, which the Hindus and the Hebrews either had in common before they separated into the two races, or which one of them borrowed from the other." The facts to which I then alluded were the identity of the meaning of the two words; their strong similitude in sound; their origin (as it seemed probable to me) from the same roots; and the mysterious importance attached to them by the races who use them. Mr. Blochmann, commenting on my observations, at the time, was not disposed to question the position I had assumed, and stated that 'the Sanskrit "*Om*" may have had originally a final *n*, and also the meaning of an affirmative particle. If so, the syllable *om* alone would express this fully, so that we

need not lay a particular stress on the final *n* in *amen* and the *n* of the original form of the Sanskrit *om*.' (Proceedings for 1865, p. 48.) In his remarks on Mr. Beames's paper, he has, however, so far changed his opinion as to state that he agreed with Mr. Beames in thinking that "there is no connection between *Amen* and *Om* as proposed" by me. (Proceedings for 1866, p. 195.)

"Mr. Beames's arguments against me are based on the etymology and the meaning of the word *Amen*, which, he says, are not what I assumed them to be; and if so, my conclusion must be wrong. According to him, the original Semitic biliteral root *man* with a prosthetic *a* forms *amen*, and as that is very different from the Sanskrit *av* of *Oman*, the two cannot be said to have come from the same root. This would no doubt have been a strong argument, had the derivation given by Mr. Beames been not open to question. Such is, however, not the case. The original of *amen*, says Dr. Johnson "has given rise to many conjectures," and even at the last meeting, two such distinguished scholars, as Messrs. Beames and Blochmann, were diametrically opposed to each other, one maintaining *am*, and the other *man* to be the original root. The Rev. J. Wenger, the most learned Hebrew scholar in Calcutta, and the Rev. Professor K. M. Banerjea wrote to me, when I consulted them in 1865, that *Am* was the root of *Amen*. Scaliger assigned to it an Arabic origin, and took *امن* to be its radical. But the great body of Biblical commentators and lexicographers give the Hebrew *אמן* as the root of the Greek *αμην*, and consequently of the English *Amen*. Kitto, in his Cyclopædia of Biblical Literature, and Calmet, in the Dictionary of the Bible, are positive on the subject. None of them has attempted to go beyond the triliteral root. Anxious as I am to avoid confounding accidental phonetic similitude with radical connexion proved by strict grammatical analysis, I must observe that as regards *Amen*, everything beyond its triliteral root appears dark and undefined,—certainly not in a condition to justify any positive deduction. Under the circumstances, the question at issue must be decided by other than grammatical evidence. So far as mere sound is concerned, seeing on the one hand, that the triliteral root *aman* is as old as the Pentateuch, which, according to Mr. Beames, dates from at least 1200 B. C., and that a great many Semitic roots are

trilateral; and on the other, that the oldest form of the Sanskrit *om* is *oman*, and that the "Unádi Sutrás" which make *av* to be its root, were designed to explain the origin of such words whose radicals could not be explained by the ordinary rules of grammar, leaving it thereby very doubtful whether *av* or any other syllable was the root of it, I cannot but think that there is sufficient similitude between the two words to justify the conjecture I have made.

The next argument in favor of a common origin of the two words is their meaning; and in that respect there is perfect identity. I have already shewn in my remarks in March 1865, that the Sanskrit *om* is a particle of assent and means "be it so," "be it confirmed," "so be it," from the original etymological meaning "to confirm," "to support," to uphold," &c. It also means "true," "truth," "verily," "yes," and "God." *Amen* in Greek and Hebrew has exactly the same meaning. Glass, in his *Philologica Sacra*, says of it: "radix  $\text{אמן}$  in Niphal  $\text{אֲמַנְךָ}$  significat firmum, fidum, stabile esse, verificari, confirmari, in Hiphil  $\text{אֲמַנְךָ}$  credere, fidere," (p. 396). All the other authorities which I have consulted, supply the same meaning. Buxtorfius, in the *Lexicon Hebraicum et Chaldaicum*, has " $\text{אמן}$  veritas *Jes.* 65-16, inde transit in Fidentis et assentientis particulam *amen*, *Deut.* xxvii. 15, quasi dicas, 'Firmum, Rite est, Vere, fiat.' In *Novo Test.* ubi in principio sententiæ adhibetur, transit in naturam adverbii, et notat asseverationem, reique confirmationem." The different passages from the Bible quoted in Cruden's "Concordance" point to the same meanings.

The circumstances too in which the two words are used are identical. The use of the word 'amen' after imprecations in *Num.* v. 22 and *Deut.* xxvii. 15, et seq. has its counterpart in the *om* in the Bhuteah malediction against the English, the translation of which led me to notice the identity of the two words. It would be easy to point out many other instances of the use of *om* after imprecations. After prayers, *om* is as universally used by the Hindus, as *amen* by the Christian Churches.

"As to the mystic importance attached to the two words, it is well known that the Hindus hold their *om* in the highest veneration as an emblem of the Deity, and in *Isaiah* lxxv. 16, the expression, "God

Amen," or "God of truth" has as close a resemblance to "Om the God" or "God Om" of the Sanskrit as possible.

"Mr. Beames emphatically declares that Amen 'never had, nor has, and probably never will have, any mystic meaning.' The fact, however, that the Rabbis did derive the word from the initials of *Adonai Melech Neeman*, and did assign to it the meaning *Dominus Rex fidelis*, is sufficient evidence to shew that it once had been used in a mystic sense. The use of it bodily in all translations of the Bible is another proof that more is assigned to it than could be expressed by a translated term.

"It has been said that the translators of the Bible left a few Hebrew words, such as *Hosannah*, *Hallelujah*, untranslated in the Greek, and *amen* was one of them. But that would not sufficiently account for its presence in translations in the modern languages of Europe, and in Bengali, Uriah, Hindi, and a host of other foreign languages. If the word meant simply "yes," or "be it so" and no mysterious or uncommon theological importance was attached to it, it would be strange to suppose that none of the many hundred dialects into which the Bible has been translated could find an equivalent for it. No word could be more universal than that which implies "yes," and if it were sought, it would be found most easily in every language on the face of the earth. It is worthy of note also that *amen*, when used adverbially for "verily," or as an adjective, is always translated, and that only when used after prayers and imprecations it is allowed to stand in its original form. Nor is a reason wanting for this diversity. The Greek and Latin Churches admit that they observed more energy in the word than they could find in any other, and St. Jerome says, 'that at Rome, when the people answered Amen, the sound of their voices was like a clap of thunder.' *In similitudine celestis tonitru* *Amen reboat*. The Cabbalists too, 'according to their usual manner of finding a hidden meaning in words which they call *notaricon*, out of the letters of amen found the whole phrase *Adonai Melech Neeman*.' (Rees's Cyclopædia, s. v. Amen.) No doubt the word existed long before the Cabbala and the Cabbalists, but as I allude to them to shew that it was at one time used in a mystic sense, and not in support of anything as to its etymology, the whole of the argument contained under the 4th head of Mr. Beames's paper is thrown away.



The question at issue is, whether or not the two words had ever been used in a mystic sense; and it is abundantly evident that at one time in their history they were.

"The argument embraced in the remark that 'the idea of Beni Israel at, say 2,000 B. C., having any means of communication with the authors of the Vedas is out of the question,' is equally thrown away. My hypothesis is, that at a time anterior to history, when Beni Israel and the Aryans lived in a common home or were next door neighbours, that they got the word, and the more primitive times we go to, the more favourable would it be to my theory. To meet it by saying that it was 'out of the question,' is not to meet it at all.

"I admit that my hypothesis is thrown out as a mere conjecture, for of times before B.C. 2000, we can have, in a matter of this kind, nothing but conjectures, only more or less probable according as they are based on premises more or less consistent; and I shall not deny that as yet philological researches have not found more than a few faint traces of a community of origin between the Semitic and the Aryan; but Bunsen, Max Müller and a number of other distinguished philologists are in favour of the theory which would assign a common origin to the two languages, and therefore the fact can no more be used as an argument on the one side than on the other."

The following communications were announced:

1. From the Assistant Secretary Government of Bengal further communications on the Earthquakes of India.
2. From Baboo Gopinath Sen, Abstract of the Hourly Meteorological Observations taken at Calcutta for June, 1866.
3. From D. Waldie, Esq., Supplementary Observations to experimental Investigations connected with the water supply to Calcutta.

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The Report on Barren Island received from Major Ford, and acknowledged at the meeting held on the 4th July, 1866, was read, as follows:—

In accordance with instructions received, we embarked on board H. M.'s Steamer "Prince Arthur" on the evening of the 18th April, steamed towards Barren Island, and were lying off it by daybreak next morning. We at once landed the coolies we had brought with us, as also their rations, water, &c. and proceeded to examine the Island.

FODDER.—We found an abundant supply of good fodder: grass of two kinds principally, (some *Andropogon* and *Pogonatherum crinitum*) growing generally over the Island, excepting the parts covered with lava and scoræ from the volcano. Arrangements were at once made to cut down and take on board as much as possible, and with the sixty coolies we had, we were able, during the two days we lay off the Island, to ship what was estimated to be about a month's supply for the whole of the cattle in the Settlement.

\* \* \* \* \*

GENERAL DESCRIPTION OF THE ISLAND.—The Island is of an irregular circular form, the greatest diameter of which is about two miles; in the centre of the Island is a regular cone of grey ashes, which from a distance looks quite round and smooth, with no vegetation of any kind on its surface; and from its apex, during the whole of the time we were there, clouds of white watery and sulphurous vapours were evolved. Around the base of the cone is an annular valley enclosed by a circular wall, the inner sides of which are smooth and regular, with a slope of from  $30^{\circ}$  to  $40^{\circ}$ , but the outer sides are more rugged, and send irregular spurs towards the sea. The height of the surrounding wall varies: towards the south-west, it is a little higher than the cone, but throughout the most of its circuit it is lower, and towards the western part of it, there is a gap, through which the lava seems to have flowed into the sea and formed a small Bay, which we found the only practicable landing-place. Across the small Bay, there issued, from underneath the lava, a series of hot springs mixing with the water of the sea, which at many places was quite hot; at low tide, in one place where vapour was arising, the temperature of the water, where it was seen to bubble up, was found to be  $163^{\circ}$  F. and at another  $158^{\circ}$  F. Surrounding the base of the cone, the valley is filled with black irregular masses of lava, which seem to have run in a stream towards the gap, through which it found an exit. Between the black masses of lava and the outer wall, the valley is covered with long bamboo grass, and the soil seems to be sand mixed with ashes, while the slopes of the outer wall afford the other description of grass discovered (*Pogonatherum crinitum*).

WATER.—No water of any description could be found on the Island. An attempt was made to dig a well, but by the time they had

got six feet deep, the men could not stand the heat; so we were obliged to give up the attempt. It seems doubtful whether any cold water could be procured, but we have no doubt that hot springs of fresh water might be discovered, especially as the sea water at the part where the hot springs issued, was only slightly brackish.

**ROCKS.**—The whole of the rocks of the Island seem igneous basaltic rocks of different colours, of which several specimens have been brought; and the lava is composed of the same material as the substrata of the Island; the only difference that could be discovered being caused by the action of fire.

**VEGETATION.**—No trees of any height were discovered, but the slopes and ridges afford an abundance of shrubs and brushes, some of them rising to the height of about twenty feet. We had no time to wander into the wooded part of the Island, so that we were unable to collect specimens of the shrubs, but after being accustomed to the one tinted jungle of the Andamans, we were very much struck with the beauty and variety of the foliage of the shrubs and brushes, the different shades of green varying from a very dark almost black to a very pale yellow, having a very fine effect when the setting sun shone upon them.

**ANIMALS.**—The great scarcity of animal life on the Island was noted; no trace of any mammal was discovered, except a few Rats, which some of those who slept on the Island saw, but were unable to catch.

Birds were rare—a few Sea Gulls, Sea-hawks and Swallows were seen, and one or two small birds were noticed perched on a shrub, but we could not get near enough to see what they were. Even amongst insects, the only ones seen were ants and moths.

**CONE.**—Nearly the whole of our party attempted to ascend the cone, the inclination of whose sides is about  $40^{\circ}$ , and it was with some considerable difficulty that we were able to reach the top. The lower part of the slope is loose ashes mixed with large stones, which rolled down on being touched; and these constitute the chief danger in the ascent, as great care must be taken that they do not fall on any one coming up behind. The north-west side of the cone was found to be the easiest of ascent, and became easier as we got higher, the loose ashes becoming less, and the stones becoming adherent by the lava or gypsum poured between them. For the last 100 feet or more of

the ascent, the surface was quite hot, and the quantity of gypsum had increased so much as to give the surface a whitish appearance; and at several places were deep fissures, from which a whitish vapour was evolved and sulphur deposited around the openings.

On arrival at the top, we noted, under the shade of an umbrella, the change in an Aneroid Barometer and a Thermometer we had taken along with us; and the following was the result, from which we deduce that the height of the cone is as nearly as possible 980 feet.

	Time.	Thermometer.	Barometer.
At level of the Sea	6.30. A. M.	82° F.	30.126
At top of the Cone	7.45. A. M.	88° F.	29.145

The top of the cone presented on a minor scale the appearance of the outer wall of the Island: so after we had reached the top, we had again to descend about 20 feet into the circular crater forming the centre of the cone, in which two white crystalline masses were discovered, which appear principally to be composed of sulphate of Lime. These, as well as a few bags of sulphur, we brought down with us.

**SULPHUR.**—The quantity of sulphur was very small, and only found around the mouths of the deep fissures, from which the vapour exuded, and far too small in our opinion to be made of any practicable use.

After we had descended the cone, on the morning of the second day of our stay, it was determined to steam round the Island to look for an anchorage, and in the evening to take on board what fodder had been cut, and then to return.

We brought from Port Blair with us a number of cocoanuts, plantain trees, and pineapple cuttings, and these we planted on the ground from which the grass had been cut, in hopes that they might be of use to some future visitors.

**ANCHORAGE.**—In steaming round the Island, the lead was kept going, but from the deep dark blue appearance of the water it could be judged that there was but little probability of obtaining an anchorage. The only place where there seemed any chance, was on the south-west, where a small sandy beach, with a heavy surf running, was discovered, above which four old cocoanut trees were seen. A boat was sent towards the shore, and got bottom at 35 fathoms, but as we had not much time to spare, the whole of the ground could not be

gone over, and if any use is to be made of the Island, the soundings around the south-west part might be more minutely examined.

BURNING GRASS.—Before leaving, we set fire to the grass which was uncut, but unfortunately, immediately after, a heavy shower of rain fell, which must have extinguished the fire in the valley, although we saw it running up the hill sides long after we left.

By evening of the 20th, all had re-embarked, and we steamed slowly towards Rose Island, on which we had determined to land on our way back, for the purpose of planting some cocoanuts, as well as of seeing the Island.

ROSE ISLAND.—We anchored off the Island next morning, and went on shore after breakfast; and while some of us were employed planting cocoanuts, the others examined the Island.

The Island lies low, and is but thinly covered with jungle; the soil is sandy, or a gravelly clay loam, not unlike the soil in some places on Barren Island. On wandering along the beach, we discerned growing here and there patches of grass of the same kind as grows in the circular valley on Barren Island, and it at once occurred to us, that if the Island was cleared, it would soon be covered with grass, and would make a good depôt for the cattle of the Settlement.

If the above idea should meet with little approval, we would suggest that the whole of the Island, except a circular belt around the Coast be cleared: and to assist the growth of the grass, which we have no doubt would be natural, a quantity of seed procured from Barren Island might be scattered. Good anchorage is found all round the Island, and as it is only twenty miles from Port Blair, we think it might be turned to advantage.

#### LIST OF SPECIMENS ACCOMPANYING THE REPORT ON BARREN ISLAND.

No. 1. Grass found in valley, a species of *Andropogon*, no flowers found to show species.

No. 2. Grass found on the slopes of the Hills; *Pogonatherum crinitum*.

No. 3. Twelve specimens chipped off from various rocks which seemed to differ somewhat in colour.

No. 4. Black lava found around the base of Cone (4 pieces).

No. 5. Sand mixed with ashes thrown up by volcano.

No. 6. Six specimens of a mixture of gravel and sulphur found in top of Cone.

No. 7. Crystalized sulphur.

No. 8. Sulphur as found around fissures near crater.

No. 9. Several specimens of lava or gypsum, found on top and sides of cone.

No. 10. Two white masses found in the centre of the crater; supposed to be principally composed of sulphate of lime.

No. 11. A sample of a red earth found on the Island.

No. 12. Samples of conglomerate.

No. 13. Stones thrown up by volcano.

No. 14. Specimens of shells found on rocks. Shells (excepting the common rock cowrie) were rare, on account of the steep dip of the rocks.

No. 15. Coral found near hot water springs, having a yellowish colour when taken out of the water.

Signed A: GAMSEKS, M. D.

ARTHUR F. LAUGHTON, *Lieut.*

*Sub-Assistant Commissary General.* } *Members of Committee.*

J. N. HOMFRAY,

*Harbour Master.*

(Signed) J. H. FRASER, *Captain,*

*Port Blair 23rd April, 1866. Assistant Superintendent in Charge.*

(True Copy)

W. FORD, *Major.*

*Supdt. Port Blair.*

On the invitation of the Chairman, Mr. Medlicott undertook to report upon the specimens forwarded with the Report.

Mr. D. Waldie read his supplementary note on the composition of the water of the Hooghly. The following is an abstract.

Mr. Waldie began by reminding the Society that in his paper read at last meeting he had pointed out a very considerable discrepancy between his own results respecting the amount of organic matter in the river water, more particularly during the hot season, and those of the Report to the Municipality then referred to, and it was a matter for consideration how they were to be accounted for or reconciled. It had been suggested that a difference might have been occasioned by the

length of time the water had been kept after collection before the analyses were made, as high chemical authority could be adduced for the necessity of commencing the analysis without delay. Now he could not but admit that there had been more or less delay in commencing the analysis of the greater part of his samples, as he was not aware that such conclusions had been arrived at; and he had himself, from consideration of the great exposure that surface waters supplying a river had already undergone, rather formed the opinion that the decomposition of the organic matter would probably have pretty well reached the maximum, so as not to leave much room for further decomposition. His own observations had confirmed him in this so far as extended keeping was concerned; but as there possibly might be a certain amount of rather rapid decomposition during the first week or two which he had overlooked, it appeared desirable to endeavour to ascertain the truth of this or otherwise, if possible. With that view he had, during the last month, made a considerable number of experiments and analyses.

The plan of testing by the oxidising action of permanganate of potash offered the readiest means for doing so, and this certainly indicated a distinct diminution of the amount of oxidizable matter, and a rapid one too, occurring even within the first twenty-four hours. But though the diminution was considerable, sometimes one-third or one half of the whole amount, yet the absolute quantity was small; and besides, this mode of testing gave no reliable information respecting the quantity of all the organic matter, which was the point at issue, and which could only be determined by ascertaining its weight.

As the question principally had reference to the water of the hot season, and of course no recent water of this kind could be procured, mixtures were made to imitate it, from samples of hot season water which had been kept, with additions of portions of sewage water. Such were prepared and the organic matter in them determined immediately, and afterwards at an interval of 12 or 14 days. A diminution was found to have taken place, but to a comparatively small extent, even though it was found that a considerable degree of putrefaction took place in them. But these mixtures, though containing from  $\frac{1}{12}$  to  $\frac{1}{8}$  of sewage, contained only from  $1\frac{1}{2}$  to  $4\frac{1}{2}$  grains organic matter per gallon; and yet, from their smell and other properties, it was quite impossible that the river water could be at all like the two worst of them. Be-

sides, comparing the sewage of Calcutta with the volume of water in the river, its proportion must be insignificant. An examination of some tank and river waters immediately after collection, and at about two weeks interval or longer, indicated the same thing, a loss of from about 10 to 25 per cent., which would not increase the author's estimates more than about half a grain per gallon.

Mr. W. further observed that perhaps a quotation of other results than his own might have more weight, and again referred to Dr. Frankland's analysis of the London waters for the largest amount of organic matter,—about  $2\frac{1}{2}$  grains per gallon,—found in the worst case; and to the general observations of the Metropolitan Medical Officers of Health agreeing with Dr. Frankland's. He further referred to Messrs. Lawes and Gilbert's analysis of the sewage of Rugby &c., (in the paper formerly quoted,) who found in the river Wandle, after it had received the sewage of Croydon, little more than 2 grains per gallon of organic matter, and in the liquid part of the sewage of Rugby only from about 7 to  $8\frac{1}{2}$  grains of organic matter per gallon. So that if the river water in May and June contain about 8 grains organic matter per gallon, and this excess derived from the Calcutta sewage, it must be as bad during these months, in regard to organic matter, as the liquid part of the sewage of Rugby, a supposition in the author's opinion altogether incredible.

He further observed that there was no way of reconciling the discrepancy, (if there was no considerable error in the analyses,) but by supposing, during the hot season, the presence in the water of a considerable quantity of organic matter, possessing no bad smell, but capable of undergoing rapid decomposition. He could not deny the possibility of this, but had seen no reason to believe it, while he had reasons for thinking it highly improbable. The point could only be decided positively by further examination at the proper season. He intended to prosecute the investigation, and hoped at another opportunity to lay the results before the Society.

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Dr. Smith regretted that Mr. Waldie had not favoured the Society, at the close of his communication, with an epitome of the exact conclusions he had arrived at. The paper had been read on two different occasions—or rather two distinct essays had been read, with the interval of a month between them. Dr. S. hoped therefore Mr. Waldie



would excuse him if he asked : 1st. What was the exact result arrived at from all Mr. Waldie's analyses ? 2nd. If Mr. W. felt satisfied that the observations now described, corroborated those detailed in his former communication ? 3rd. What was the largest quantity of organic matter Mr. Waldie had at any time, either during the past month or previously, been able to detect in Hooghly water ?

Mr. W. replied, 1.4 grs. of organic matter per gallon was the largest quantity he had detected.

Dr. Smith then expressed his opinion on certain parts of the paper.

He stated his belief that, to have accurate and precise knowledge of the quantity of organic impurities in any water, such water ought to be analyzed *without delay* after being drawn. He believed the fact was an accepted one among chemists, that *by keeping* the foulest water, its organic impurities in time disappeared to a great degree, if not altogether, by the action of the oxygen of the water itself.

Mr. Waldie's specimens had some of them been kept so long as four months, and none (?), had been examined within less than a fortnight of the time that they were drawn from the river. This might be regarded as a most serious objection to the value of the analyses that had been instituted by Mr. Waldie, and of the conclusions drawn from such analyses.

Again, if Dr. S. was right in understanding that Mr. Waldie had, during the past month, analyzed mixtures of various kinds of water which he himself had *artificially* produced, and that from these (as being certainly more tainted than our river water) he had arrived at the conclusion that our river water was comparatively pure, and indeed much more so than had been laid down by Dr. Macnamara—if Dr. S. was correct in these premises, he could not but regard such experiments as very inconclusive, inasmuch as what was wanted was simply an analysis of the river water recently drawn, (whatever might be its qualities) and not a table showing the composition of mixtures which Mr. W. had made up in his Laboratory—by adding to certain ordinary water a certain quantity of offensive fluid taken from a drain in town, and again a certain quantity of water from the impregnated Salt Lake.

Mr. Blanford had stated that he was led to understand that a source of fallacy might be attributed to the faulty manner in which Dr.

Macnamara had caused the specimens of the river water to be drawn, upon which his experiments had been made.

Dr. Smith said he had Dr. Macnamara's Report before him, in which the preliminaries of his operations were most plainly laid down.

*"The water was taken monthly, from the centre of the stream, at six feet below the surface, and from three stations, namely, from opposite Cossipore, Pultah Ghaut and Ohinsurah."*

Dr. Smith thought the Society ought to be glad that so important a subject had been brought forward, one not of mere *abstract* scientific interest, but related to questions of very great practical importance.

It was note-worthy that the largest quantity of organic impurity at any time detected by Mr. Waldie was 1.4 of a grain per gallon, whereas the following was the result which had been arrived at by Dr. Macnamara with Cossipore water :—

"As might be expected, the water during March, April, May and June, is largely intermixed with the saline matters of the sea-water and the sewerage of Calcutta, *and during that time is unfit for human consumption.* \* \* \* \* The saline contamination is not of such importance with regard to the use of Cossipore water for drinking purposes, as is the pollution which the water derives from the sewage matters, which the tide sweeps along with it. \* \* I found during last April, as much as 10 and 12 grains of organic impurity in the water." \* \* The organic impurity of Cossipore is highly nitrogenised, and while burning, evolves a strong and disgusting ammoniacal smell."

Here is a grand discrepancy, the true cause of which it would be well that the Asiatic Society should try to discover. Dr. S. was inclined to believe that the fact of Mr. Waldie's experiments having been postponed after the drawing of the water to weeks and even to months, was sufficient to account for the difference in the results now contrasted. Dr. Macnamara's observations had extended over *fourteen* months, and he had used water freshly drawn.

The conditions under which Mr. Waldie had gone to work were quite dissimilar to these.

Mr. Waldie had said he thought it simply *impossible* that the water of the Hooghly could be impregnated with so much as from 5 to 8 grains of organic impurity in the gallon. Dr. Smith was disinclined

to regard this as an impossibility, the more so because Dr. Macnamara had actually succeeded, by most conscientious manipulation, in discovering at one time of the year, 12 grains to the gallon in the water at Cossipore. Dr. Smith observed that when he only thought of all the possible and actual sources of impurity in this river, the impossibility alluded to by Mr. Waldie vanished entirely from his mind. We must remember, he said, the incalculably vast sources of vegetable and animal adulteration occurring in the whole previous course of so large an Indian river. We must think of all its tributaries, and of the thousands of *nullahs* that carried into it pollution of every conceivable kind—dead and putrid animals, decaying vegetation and waste matter from populations covering vast areas. We must think of the contamination arising from the shipping alone, at and near Calcutta. We must recall the fact of there being, at the present moment, such things as floating Latrines for thousands of our famine-stricken paupers who find shelter close to the river bank. We must think of the *twenty-two* sewers that disgorge themselves into the river between Chitpore and Hastings' Bridge, and this within a tidal influence by which much of the impurity is kept in a state of oscillation and not effectually carried away by the current. Besides this, we must remember that very vast quantities of night-soil are deposited daily in the Hooghly, the quantity being 180 tons daily.\* If we think of all these impurities and couple them with the tropical conditions of heat and moisture in which they are found, it appeared to Dr. Smith not only not impossible, but even highly probable that there should be as much as 5 grains of organic impurity in each gallon of the water. Indeed the possibility might be said to resolve itself into a certainty, when we remember that Dr. Macnamara actually succeeded in discovering *twelve* grains to the gallon. Dr. Smith thought we were also justified in holding to a belief in such possibilities by *collateral* knowledge. He said it was well known that where organic impurities abound, Diarrhoea, Dysentery, Epidemic Fever and Cholera likewise abound. Here on the banks of the Hooghly they are rife; and much careful observation went to prove, beyond a doubt, that the excess of sickness from the diseases named arose from the fact of excessive

\* In the actual discussion Dr. Smith had erroneously stated the amount at 180,000 tons. Hence Babu Rajendra Lal Miter's remark see page 225.

and unusual organic impurity in the water of the river itself. The products of fœcal decomposition were known to be there in vast quantities, because the fœcal matter was systematically and daily deposited there, so as, if possible, to poison the stream.

Why this should be carried out above the town instead of below it was, Dr. Smith observed, a puzzle to him. He thought it a very unjustifiable Municipal arrangement and highly objectionable.

Mr. Waldie had also described "crops and forests of vegetable matter" in some of his specimens. Were not these enough in themselves to account for a vast and unusual amount of organic adulteration? Dr. Smith thought this must be so, quite independent of similar impurities derivable from sources of *animal* decay.

Dr. S. said he could not help observing that Mr. Waldie himself had expressed very considerable uncertainty as to the value of his own results, and even as to the processes adopted, by which he had arrived at them.

This, Dr. S. was prepared to allow, was evidence of great candour on Mr. Waldie's part, who indeed, it must be allowed, had judged his own experiments very critically and severely. All this, however, was not capable of affecting the Tables now about to be published by the author of the present paper, and the relation of these to the remarkably different figures found in Dr. Macnamara's Report of the same analyses, conducted at the instance of the Calcutta Municipality.

Dr. Smith said he was not himself prepared to disprove that tank-water was less pure than Hooghly water; this was not the point he cared to discuss. On the other hand, he was quite ready to allow that water drawn from Pultah Ghat ought to be and is purer than that obtained under like circumstances at Cossipore, which is a good many miles lower down the river. But if he did not greatly mistake Mr. Waldie's meaning, the Society was now asked to accept these two broad facts :—

1st. That the water of the Hooghly is not so impure as it is usually believed to be, and as has been stated by Dr. Macnamara.

2nd. That it is fit for town consumption at all seasons of the year without greater danger than attaches to the impurities of the Thames, for example.

Dr. S. believed the Hooghly to be a most *unusually* foul and tainted

stream. We had proofs of this, already alluded to, in connection with the amount of prevailing disease—quite independent of difficult chemical analysis.

Dr. S. said he should like to see placards and sign-boards put up all along its banks, bearing the words *Poison—unmistakable active poison*; and he would even be glad to know that it was rendered penal for a person to drink of it, exactly on the principle of its being deemed advisable to punish those who might attempt to poison themselves with a solution of arsenic, or any other deleterious substance, which was likely to lead to fatal results.

With all due respect for Mr. Waldie's patient observations—to his unquestionable fairness and good faith in trying to place truth before the Society; with all proper regard also for those traditions of the Hindoos that would establish the sanctity and life-inspiring properties of the Ganges, Dr. Smith expressed the conviction that it is an indescribably unclean and revoltingly contaminated river, that it is a vehicle for every variety of excrementitious abomination—not only accidentally found in it, but wilfully deposited in its waters, and that its hygienic qualities are of the lowest possible standard.

He thought it very important that this fact should be acknowledged; otherwise the result of Mr. Waldie's experiments would go to prove that it is by no means an unusually tainted river, but, on the contrary, that it is one from which a sufficiently wholesome water-supply might be obtained on this side of Cossipore, an opinion strongly negatived—not only by all past Medical experience in the city, but also by the careful observations and published analyses of Dr. Macnamara. Two-thirds of the admissions into the Hospitals of Calcutta for cholera, Dr. S. remarked, came from the river. This in itself is enough to condemn the Hooghly as a most obnoxious vehicle of poison, because we cannot now evade the conclusion that, where we have excess of cholera, we have an unusual amount of organic impurity in the water used by the persons so affected,—this conclusion being in the present day considered *irresistible*, as a result of all the study and analyses gone into and published of late years in England, on the subject of cholera and its invariable association with organically unwholesome water.

Dr. S. said that the experience of man had gone, generally, to prove that the water of rivers near great towns was always unwhole-

some. It was this that had driven the Romans to bring water from the hills of the Campagna. It was this that had led the citizens of New York to conduct the river Croton from a distance of forty miles, through works which evinced great engineering talent and skill. It was this that had led to the last proposition that had been gravely made in England regarding the water supply of London, viz. that it should be brought from Ullswater—on the borders of Cumberland—two hundred and forty miles distant from the Metropolis. It was this that led Sir Hugh Rose, shortly before he left India, to throw out the suggestion that it might be advisable to supply certain of the larger Military stations of Upper India with water brought down from its clear and uncontaminated sources on the Himalayas.

The same experiences ought, Dr. S. thinks, to lead us to reject the notion that Hooghly water can in any sense or with any justice be said to be comparatively pure—when in point of fact it is absolutely impure from a mixture of vegetable decay, common salt from the sea brought up by the tide, and fœcal decomposition resulting from a thousand impurities of which we have direct knowledge.

In conclusion Dr. Smith begged to reiterate his objection to experiments and analyses conducted for the determination of organic impurities of water which had been kept for months or even for weeks.

He believed he was right in saying that such a mode of procedure would not be accepted as a reliable one by any Chemical Society in Great Britain or Europe.

Mr. Blanford said :—"There is a method of deciding the merits of rival and mutually discrepant statements of fact, well known in another arena of discussion, though I believe it is not common in Societies which busy themselves only with Science. It is to assume that the one, usually the more dogmatic statement, is absolutely and necessarily true, and to carry to the discredit of the opposite view, any admission of possible error, which may be made by a philosophical opponent, who considers that the best way to arrive at truth is to treat his own view as critically as that which he rejects. I cannot but think that it is somewhat in this manner, that Dr. Smith has discussed Dr. Waldie's paper. Dr. Macnamara's report being prepared for the information of legislators, who wish for results, and not for a critical discussion of the means pursued to obtain them, is necessarily somewhat dogmatic

in form, and omits a great number of details, which he would no doubt have given, had his paper been prepared, like that of Dr. Waldie, for a scientific body. But it by no means follows that his results can therefore lay claim to greater confidence. I think indeed that, as a general rule, one would rather be inclined to attach most weight to that statement which is made most cautiously, and displays most sense of possible error. And in the particular case under discussion, if I rightly understood some remarks made by Dr. Macnamara, at the close of our last meeting, there is an important part of the evidence adduced in Dr. Macnamara's report, upon which further information is necessary, before we are in a position to form an opinion on the trustworthiness of Mr. Waldie's and Dr. Macnamara's results respectively. Unless I am greatly mistaken, Dr. Macnamara stated, that he could not hold himself responsible for the sampling, but only for the analyses. The statement in Dr. Macnamara's report, quoted by Dr. Smith, must not therefore be taken as expressing more than that, at the time of writing, Dr. Macnamara had no reason to question the accuracy of statements that had been made to him. But now that there is a discrepancy, and a very important one, to be cleared up, before we can pronounce any opinion on the amount of organic matter in the Hooghly water, we should I think be informed whether Dr. Macnamara's specimens were taken from the river, in scrupulously clean bottles, and by a conscientious and careful sampler in the manner stated; or whether, by a bare possibility, some lazy cooly or chapprassee, having received his instructions, may not have found that time and trouble as well as certain pice entrusted to him for boat-hire were saved to him, by taking the water from the edge of the muddy river bank. I do not of course state that such was the case. I merely suggest the point as one on which more evidence is desirable, before any decision can be arrived at.

"Dr. Smith attaches great weight to the fact that 180 tons of night-soil are poured daily into the river, and thinks Mr. Waldie's analyses quite irreconcilable with this fact. I cannot myself see that the facts as stated, would in any way prejudice Mr. Waldie's results, nor would they do so, were the quantity of night-soil ten times as great. The question is one of proportion; and until we know the volume of water discharged by the river, we are quite unable to found any argument

upon the mere quantity of night-soil discharged into it. Even if there be 180 tons a day, 10,000 times that amount of water does not seem an improbably excessive discharge for such a river as the Hooghly.

"I do not see that any other argument of Dr. Smith's is by any means conclusive. There is no *a priori* improbability in the water being bad and not fit for human consumption, even though it contain no more than 1-4 grains of organic matter per gallon. The unhealthiness of the water is *one* question to be decided by evidence, that of the number of grains of organic matter per gallon is quite an independent question, which can best be decided by means similar to those adopted by Dr. Waldie."

Bábu Rájendralála Mitra said that he did not wish to take a part in the discussion as regards the merits of the different analyses of the Hooghly water by Drs. Macnamara and Waldie, but he could not help observing that the line of argument adopted to impeach Dr. Waldie's analyses was not a fair one. The great disparity between the results of the two learned chemists was certainly startling, and suggested the necessity of further enquiry; but that enquiry should be conducted solely and exclusively through carefully conducted rigid analysis, and not by *à priori* arguments which proved nothing. No doubt the sewers of the town discharged a large amount of filth into the river, and there were other sources of contamination equally or more potent; but the river was not a closed vessel, and the law of proportion could not apply to it in any way. Mr. Blanford had very correctly pointed out (the Bábu said) that, notwithstanding the oscillation caused by the tides, the river discharged an enormous volume of water every minute into the sea, and as long as the relation it bore to the total quantity of filth daily thrown into the river was not ascertained, the rule of proportion suggested by Dr. Smith could only serve to mislead. Then a large quantity of filth was being constantly changed by exposure to the atmosphere, and the pure oxygen contained in the water, and its ratio had to be ascertained. Then again the fishes, the molluscs, the crustacea, and the infusoria—the myriad millions of animals—which inhabit the river, live and fatten mainly on the sewerage of the town, and as long as the quantity consumed by them was not ascertained, one most important element in the calculation would remain undetermined. The fact, however, was that rivers were



the great natural drains of a country, and designed expressly to carry away its surplus waters and its sewage to where they became the least offensive, and at the same time, most useful in the economy of nature. The Hooghly in this respect was not worse off than the Thames, the Seine, the Rhine, or the Meuse in other countries. They were the best of sewers, and they served their purpose most effectually. To expect that masonry drains would do it better, is to expect that irrigation from wells would supersede the rains. Their waters were no doubt foul, and they could not be otherwise; but Dr. Smith was evidently misinformed as to the quantity of night soil daily thrown into the river before Calcutta. It could not possibly be 180,000 tons, for that would be equal to forty-eight lakhs of maunds a day, or taking the population of the town at four lakhs, the number ascertained by the last census, it would be twelve times the number or over sixteen times the weight of the whole population. Admitting, however, that there is a large amount of filth in the waters of the Hooghly, resource should be had to chemistry and not to argument, to ascertain its extent.

As to the unwholesomeness of the Hooghly water, Dr. Smith had (the Bábu thought) drawn a rather high coloured picture. The experience of ages had convinced the Hindus that the water of the river for most part of the year was infinitely more wholesome than that of tanks, and they generally incurred heavy expense in bringing river water from a distance for drinking purposes, rather than take the water of tanks from their doors. Had that water been so loaded with the seeds of cholera and dysentery—so potent as an active poison,—as Dr. Smith would make us believe, they would have certainly suffered more severely than they do. The death rate of Calcutta was no doubt high, but it was not higher among the Hindus, most of whom drank the river water, than among the Mahomedans and Christians who eschewed that source of supply. This fact was the other day most pointedly illustrated at the Small Pox Hospital at Chitpur, where Dr. Chuckerbutty found that his Hindu patients who obtained their water from the foulest part of the river opposite Chitpur, suffered less from diarrhoea and dysentery than his Mahomedan patients for whom he obtained water from a tank called Bábu's Tank, the best in the neighbourhood. These were facts which could not be set aside by allusion to the prevalence of cholera among sailors, for Jack

ashore was exposed to many sources of disease a great deal more powerful than the waters of the Hooghly.

Mr. Waldie gave explanations and replies to the several speakers, of which the following were the principal ;—

The principal difference between stagnant and running waters was, that in the former the fermentative or putrefactive process tended to be the prominent one, and yielded products which exercised a deoxydating influence, and therefore required a greater quantity of oxygen when tested by the permanganate. In running streams again the process was more of an oxydating one, from the much larger amount of surface exposed to the air.

But the question at issue was, the amount of organic matter by weight. He did not consider that the delay in examining some of his samples could materially affect the correctness of his results, except possibly in the case of the December and February waters, which had stood over three or four months ; though even in these, judging from observations he had made, there was not probably any great error. But he would put these aside, as the point in question had reference to the water of the hot season and of the rains. The formation of vegetable growth in the bottles was very striking, and illustrative of the excess of organic matter, in the earlier part of the rains more particularly, which very decidedly exceeded that in the water of the end of the hot season. There was no great delay in examining the hot-season water : that of 14th June, at the very end of the hot season, was examined only nine days after collection, and gave only  $1\frac{1}{10}$  grains organic matter per gallon, being the largest amount found in the water of the hot-season. The water of the rainy season stood about a month in the earlier samples, waiting till it settled, as the presence of the finely divided clay, which could not be separated by filtration, was a great difficulty in the way of estimating the organic matter, and though this could be removed easily, the processes required made the subsequent determination of organic matter of doubtful accuracy.

He would not enter into the conclusions drawn from medical statistics. His business at present was simply to state his results, and leave it to the medical men to draw conclusions from them. His object was to supply correct data.

Mr. W. further remarked that in this evening's paper, he had subjected his own results to a very rigid scrutiny: he had given dates, while he knew nothing of the time at which other analyses were made, except that probably they were made "as soon as possible," not a very definite expression. But he intended to prosecute the subject, and should be quite ready to correct anything in his past result, which further investigation failed to confirm.

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Mr. W. T. Blanford exhibited a large series of worked agates, of the early-stone period, from Central India, and offered the following remarks.

"The specimens of agate implements now exhibited were collected by the late Lieutenant Swiney, in the neighbourhood of Jubbulpoor, and we are indebted to Mr. H. Rivett-Carnac for the very fine and interesting series before us. Two specimens from the same collection were exhibited at the meeting of this Society in April 1865, and a note upon them, by Lieutenant Swiney, was read at the same time. (Proc. As. Soc. Bengal for 1865, p. 77.)

"Mr. Rivett-Carnac has now very kindly given us an opportunity of examining the bulk of the collection, and of figuring some of the specimens. They belong to two classes, one of which exactly represents the flakes so frequently found associated with human remains of great antiquity in Europe: the other is, I believe, comparatively rare, although specimens have been found, especially in the Kjekkenmøddings of Denmark, and at the April meeting of last year, my brother pointed out the resemblance of the first two specimens received from Central India to some of these *cores*, as they have been termed.

"The flakes are, for the most part, similar in form to those found in Europe. Some are pointed, others blunted at the end, and it is probable that the former may have been designed for piercing, the latter for cutting. Besides the lengthened oblong flakes, there are others of much broader form, but judging from the relative proportions in the present collection, they must have been much rarer. (Pl. III., figs. 1, 2, 3.)

"The cores are by far the most interesting portion of the collection. They are of two principal forms, subconical and subprismatic. Irregular blocks, from which flakes have been split, also occur in considerable numbers. They may always be identified by having a num-

ber of faces nearly plane or slightly concave, of considerable length in comparison to their breadth, and in general parallel to the longer axis of the block.

"The subprismatic cores (Pl. II., figs. 1-4, Pl. III., figs. 11, 12) approach most nearly to those represented in European works. (Compare Lubbock's *Prehistoric Times*, Pl. X., fig. 6, and fig. 61, p. 65.) Many of the Jubbulpoor specimens, however, are far neater, a circumstance perhaps due to the greater homogeneity of the material. The sub-conical forms (Pl. II., figs. 5-12, Pl. III., figs. 8, 9) are, however, the most curious. I have seen no figures of similarly shaped cores from Europe. Many of the present specimens are so beautifully shaped, and the facets forming them are so regular and equal, that it is difficult to avoid the impression that these little cones were the objects desired by the manufacturer, and that the chips were merely accidental. Both Lieutenant Swiney and Mr. Rivett-Carnac adopted this view, looking upon the prismatic and conical forms as arrow heads or lance heads respectively; and Mr. Rivett-Carnac ingeniously suggested, in a paper published in the Nagpoor Journal, that the imperfect notches seen on many of the specimens were intended to be fitted into a hollow bamboo or reed, that the locality at Jubbulpoor was a great manufactory, and that the specimens we now find are the failures, not the finished weapons. To this opinion it may be objected; 1st, that some of the specimens found (*e. g.* Pl. II., fig. 1, and Pl. III., fig. 4) do not appear at all to be shaped into any form available for a weapon; 2nd, that every gradation is found, from the most perfect cones to rough blocks, from which two or three flakes only have been split, and 3rd, especially, that the form of the most finished specimens we have (*e. g.* Pl. III., fig. 9) is totally unfitted for a weapon intended to pierce, the angles formed by its sides at the point being too obtuse, and its transverse section being nearly circular, whilst that of all lance heads, and of most arrow heads, even amongst the rudest and least intellectual of races, is more or less elliptical, with the ends of the major axis sharp. With respect to the notches, I am convinced that they are accidental; in an attempt which I made to imitate some of these cores, (in which I may add, to the credit of the stone people, that, with all the advantages derived from the possession of an iron hammer, I failed egregiously,) I found that the notches were far more easily produced than avoided.

"I am but ill-acquainted with the remarkable accumulation of discoveries with respect to the prehistoric flint weapons of Europe, but I cannot help thinking that had any specimens, of equal neatness and beauty to these, occurred in the caves and shell mounds of France and Denmark, illustrations of them would be more numerous in the works relating to the subject. One other remarkable character in which the Central India cores differ from those figured from Europe, is in their extremely small size. Many of the most neatly shaped specimens are less than an inch in length, some less than  $\frac{3}{4}$  inch. It is difficult to understand how they can have been fashioned, and to what purpose the little flakes obtained from them have been applied. Possibly the latter were used as needles, or they may have been largely employed to tip small darts used for killing birds and small mammals, or, very probably, fish. Fish are still frequently shot by arrows in parts of India and Burmah, and I have myself seen men engaged in this mode of capture in both countries.

"The material of which all these implements are formed is agate or jasper, derived from the trap formation so extensively developed in Central and Western India. It is a beautifully homogeneous stone; very hard, and the edges of flakes split from it are extremely sharp. It is similar in mineral character and composition to the flint used by the early races of Western Europe, and is of equally good quality.

"With respect to by far the most interesting questions affecting these chipped implements, viz. their mode of occurrence and their geological antiquity, we have, unfortunately, very little information. Lieutenant Swiney's account of his discovery of the specimens in the neighbourhood of Jubbulpoor has been published in the Proceedings of the Society for April, 1865. I have myself, during the past year, found one very beautiful specimen of the long subprismatic form of core (Pl. III., fig. 12) close to the village of Singara, about 15 miles north of the station of Chindwara, in the Central Provinces; and I also met with 4 or 5 fragments of agate and jasper, from which flakes had evidently been chipped, on the banks of the smaller Sawa river, about 20 miles E. N. E. of the station of Kundwa in Nimar. The last locality is in a wild, almost uninhabited jungle. In both instances the cores were lying at the surface of the ground.

"It is probable that the area indicated, viz. the valley of the Nerbudda and its neighbourhood, for a distance from east to west of about 200

miles, is but a small portion of the tract over which these chipped agates will ultimately be met with. Cores of the prismatic form, chipped from chert, have been found in Sind, and specimens are preserved in the collection of the Bombay Branch of the Royal Asiatic Society.

"The question of the geological age of these implements becomes of great importance, when we consider the neighbourhood of the locality in which they occur, to the most important later tertiary deposit containing remains of mammalia, which has yet been explored in India,—the Pliocene gravels of the Nerbudda. It is to be hoped that it may be possible to trace the connection of the bone-bearing beds with those containing the implements. In connection with this question, the discovery of a flake by Mr. Wynne of the Geological Survey *in situ*, in the gravels of the Upper Godavery, already mentioned to the Society by Dr. Oldham, (see Proceedings for December, 1865, p. 207,) is of remarkable interest. A note of the discovery has also been published by Mr. Wynne in the Geological Magazine. I was myself at first very sceptical as to the genuineness of this flake, but a recent re-examination, and comparison of it with some of the Jubbulpoor specimens, have strongly inclined me to believe that it is really of human manufacture. It is precisely similar in form to one Jubbulpoor flake (Pl. IV., fig. 11), differing only in its larger size.

"It should never be forgotten that the question of the antiquity of man in India has a peculiar interest. Both tradition and scientific induction point to the tropics and especially to tropical Asia as the cradle of the human race. If this occurrence of implements of human manufacture in the Godavery gravels be confirmed, and especially if similar implements be found in the Nerbudda beds, they will prove man in India to have been contemporaneous with a fauna differing far more widely from that existing at the present day, than did the old cave fauna from that of modern Europe.

"Another point of interest is, the relative antiquity of the agate cores and flakes of the Nerbudda to the quartzite axes, scrapers and sling stones of Madras. Judging from the European equivalents, the Madras specimens should be the older: they exactly resemble the implements of the Amiens and Sussex gravels, whilst the counterparts of the Jubbulpoor flakes are to be found in the cave shelters of Dordogne, the shell mounds of Denmark, and the tumuli and barrows of England.

But it should not be forgotten that while both types of implements in Western Europe are formed of the same stone, viz. flint, those of Madras and Central India are of very dissimilar composition, and the agates of the latter country are rarely found in blocks sufficiently large to form the weapons of Madras, while the quartzites of Southern India would not afford the sharp edges and fine points, for which the jaspers and agates of the Nerbudda are eminently suited. In both localities the best use appears to have been made of the materials at hand, and the two forms of weapons may, so far as our present knowledge extends, have been contemporaneous, or either may have preceded the other.

“In conclusion, I wish to point out how greatly we are indebted to Mr. Rivett-Carnac for the loan of these most curious and interesting specimens of ancient human art.”

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PROCEEDINGS  
OF THE  
ASIATIC SOCIETY OF BENGAL,

FOR NOVEMBER, 1866.



The last meeting of the Asiatic Society of Bengal was held on Wednesday, the 7th instant, at 9 p. m.

W. S. ATKINSON, Esq., in the Chair.

The proceedings of the previous meeting were read and confirmed.

Presentations were announced :—

1. From Lieutenant R. A. Cole, a copy of a "Manual of Mahomedan Civil Law" in Canarese.
2. From Rev. A. B. Spry, a case of bird skins from Malacca.
3. From Dr. C. MacClelland, a case of Upper Cretaceous fossils from Gherra Punji.
4. From Captain T. H. Lewin, through Mr. Grote, specimens of clothes worn by the Hill tribes of Chittagong.
5. From Sir D. Macleod, through H. H. Locke, Esq., a bust of General Forbes.

The following letter accompanied the donation :—

*To the Honorary Secretary to the Asiatic Society of Bengal.*

DEAR SIR,—I am directed by Colonel Ballard to forward to you the accompanying bust of General Forbes, as a presentation from Sir Donald MacLeod, Lieutenant-Governor of the Punjab. The bust is a duplicate which has been executed in this school, from the very fine marble, by Foley, in H. M. Mint, Calcutta.

Yours faithfully,

H. H. LOCKE,

*Principal, Govt. School of Art.*

Calcutta, November 7, 1866.



On the proposition of the Chairman, a special vote of thanks to Sir D. MacLeod was given by the meeting.

Kumar Harendra Krishna Bahadoor, proposed at the last meeting, was balloted for and elected an ordinary member.

The following gentleman was nominated for ballot at the next meeting :—

J. M. Ross, Esq.

Proposed by Dr. J. Anderson, and seconded by Mr. H. F. Blanford.

Mr. S. Jennings' desire to withdraw his name from the Society was recorded.

Read the following letter from W. H. Johnson, Esq., on the existence of Hindu Tartars on the banks of the River Indus :—

*To the Secretary, Asiatic Society of Bengal, Calcutta.*

DEAR SIR,—I have the pleasure to request the favor of your kindly bringing to the notice of the Society the fact of the existence of Hindoo Tartars on the Indus river, and of their occupying several villages, the largest of which is Dah, between Dras and Iskardo. These people differ much in their manners, customs and religion from the Bhots of Ladak and the Baltis of Iskardo. They consider themselves to be pure Hindoos, being so devout and paying such veneration to the cow, as to refrain from touching that animal and from consuming its milk, &c. I believe these men are of a distinct race, traces of which are not to be found in any other part of the Maharajah's territories. No doubt great advantages and useful information may be derived by enquiring into the language, manners and religion of these people; and it is for this purpose I have brought the subject to the notice of the Asiatic Society.

I remain, yours faithfully,

W. H. JOHNSON,

*F. R. G. S.*

*Dehra Dhoon, 28th October, 1866.*

The receipt of the following communications was announced :—

1. From J. Beames, Esq., C. S.—

“ Outlines of Indian Philology.”

2. From Baboo Gopee Nath Sen—

“ An abstract of hourly Meteorological Observations made at the Surveyor General's Office in July last.”

3. From Bābu Rājendralāla Mitra—

“Notes on Gupta Inscriptions from Aphsar and Behar.”

4. From C. Horne, Esq., C. S.—

“Notes on Mynpuri village and on some carvings on the Buddhist rail-posts at Boodh Gya.”

5. From the Secretary to the Government of Bengal in the Public Works Department—

“A Report on the Earthquake of the 23rd May last.”

6. From V. Ball, Esq.—

“Notes on the principal Jungle fruits used as articles of food, by the natives of the districts of Maunbhoom and Hazareebagh.”

At the request of the Chairman, Mr. Ball read his paper, of which the following is an abstract:—

The author remarked that during the present season of famine many of the Jungle tribes of Maunbhoom and Hazareebagh subsisted entirely on the produce of wild jungle plants. He had collected information respecting the plants so used, and in the paper which he now read to the meeting he enumerated the fruits, &c., with some details respecting their preparation as food. The following is the list, given approximately in the order of their relative importance —

Botanical Name.		Native Name.	Parts eaten.
<i>Bassia latifolia</i> .		Mahowa.	{ corolla and fruit.
<i>Shorea robusta</i> .	Roxb.	Sāl.	seeds.
<i>Moringa pterygospermum</i> .	Gärtn.	Sujna.	leaves.
<i>Euxolus viridis</i> .	Linn. sp.	Bātwa.	do.
<i>Amaranthus spinosus</i> .		Kantā.	do.
<i>Ficus Indica</i> .	Roxb.	Bur.	fruit.
<i>F. religiosa</i> .	Linn.	Pipal.	do.
<i>F. venosa</i> .	Aif.	Pakoar.	do.
<i>F. racemosa</i> .	Linn.	Gooler.	do.
<i>Zizyphus jujuba</i> .	Lam.	Bier.	do.
<i>Buchanania latifolia</i> .	Roxb.	Pial.	fruit and seed.
<i>Diospyros melanoxylon</i> .	Roxb.	Kaned or Keond.	fruit.
<i>Carissa carandus</i> .	Linn.	Kuromcha.	berries.
<i>Bauhinia Vahlii</i> .	W. L. A.	Chehoor.	seeds.
<i>Syzygium Jambolana</i> .	Decandolle.	Jamoon.	fruit.

<i>Phyllanthus emblica.</i>	—	Amlá.	fruit.
<i>Terminalia catappa.</i>	Linn.	Badam.	seeds.
<i>Cassia fistula.</i>	Linn.	Amultas.	{ placentæ of pods.
<i>Trapa bispinosa.</i>	Roxb.	Singhara.	seeds.
<i>T. quadrispinosa.</i>		Do.	do.

In addition to the above, a number of roots are used, but the author has not at present sufficient materials to give a list of them.

Mr. W. T. Blanford said, with reference to Mr. Ball's paper, that those who had not habitually lived among the jungle tribes of India, could have but little idea how largely they depended on the natural yield of the forest for their sustenance. The subject was one of especial interest in connexion with the probable habits of the ancient men of Pre-historic times, whose relics were now exciting so much deserved interest in this Society and elsewhere.

The following notes received from Mr. Horne were read.

1. To what is due the exemption some men have from the attacks of bees and wasps?

One reads of it in England, and here is another illustration.

"Yesterday we arrived at our camp at Soj, and needing the elephant to go on again very soon, I directed the Mohaut to feed him well, and have him ready in three hours.

"Instead of this, he chained the said elephant under a large peepul tree, leaving him to pull down the boughs and browse on them.

"He did this for some time, when presently he seized a large branch and swaying to and fro, applied his vast strength to pull it down.

"He succeeded; but the crash caused the whole tree to shake, when suddenly there was a cry in the camp, 'The bees! The bees!' and every one was seen running away, beating off the said bees, which descended from the peepul tree, where they had been disturbed by the shaking, and attacked every living thing within 70 or 80 yards.

"A dog even, passing below the tree, did not escape, and was sorely

bullied by the insects. He shook his head, struck with his paws and rolled in vain.

"One man defended himself vigorously with the table cloth which he was taking away, leaving however his pugree on the field. Two men hid under some tent covering, and it was strange to see the pertinacious way in which for more than an hour ten or twelve bees flew round at them, occasionally getting under, so that one of the men was much stung.

"But it was stranger still to see one of the men Chida (gardener). He lay sleeping with only a waist cloth on and nearly all his body exposed, under the very tree; yet no bee touched him! This man takes a bee's or wasp's nest, brushes off the bees or wasps with his hand; none sting him. He could on this occasion have made no preparation. *Why is it?*

"The bees after about two hours retired to their tree, and the camp was reinhabited.

"October 20th, 1866."

## 2.—Fireflies and sympathetic light.

"On the 8th September, 1866, as I was returning from my autumn assizes at Etawah, I was detained for an hour at Boojee Ganges canal chokie, about eleven miles from Mynpoory; and sat outside by the canal and watched the fireflies.

"It had just fallen dark, and they were flying around the trees on the canal-bank in very great numbers. But what struck me was their simultaneously flashing their light. Suddenly a whole tree was a blaze of light. After a second or two all was dark. Then again the light flashed forth simultaneously.

"I have never before observed this. I have often seen a long stream of sustained light as well as the ordinary intermittent effulgence, but this was so beautiful a sight that I shall not quickly forget it.

"I cannot say how far the simultaneousness extended. It certainly extended to several large trees and their surroundings, although all along the canal bank there were myriads of fireflies, whose giving forth of light I did not observe."

A note by Mr. W. Theobald, Junior, on the supposed occurrence of *Nesokia Indica* in Burmah, was read.

"In Blyth's excellent "Memoir of the rats and mice of India,"

the author remarks of *Nesokia Indica*, that he has "not seen it from the eastward of the Bay of Bengal, though it is likely enough to occur in the dry climate of the region of the Upper Irawadi."

"In confirmation of this supposition, I now record the occurrence of *N. Indica*, at Tounghoo on the Sittang, and the very first specimen I procured exceeded any measurement recorded by either Blyth, Gray, or Elliot in the above memoir. Elliot gives the dimensions of an old male.

Body, .....	7.00	} =13.50
Tail, .....	6.50	

"On which Blyth remarks: According to my observation, the tail has not exceeded  $5\frac{1}{2}$  inches from any part of the country."

"In contrast to the above statement stand the measurements of an old male and female *Nesokia* from Tounghoo, taken carefully from the fresh animals.

Male,.....	Body, .....	9.75	} =17.00
	Tail,.....	7.25	
Female,...	Body, .....	8.50	} =14.50
	Tail. ....	6.00	

"Colour dark brown above, hardly paler below.

"It will of course from these measurements be surmised that the specimens are young Bandicoots, but though I have no series to compare them with, I cannot but think they are unusually large *Nesokias*. They display the "bluff arvicoline or vole like aspect" and have toes 4-5 and sixteen mammæ.

"The following description of *Mus robustulus*, Blyth, from Tounghoo, may help to exhibit the variations of size and colour to which the species of this difficult group are subject.

"*Mus robustulus*, Blyth.

"Colour dark grey ("grizzled grey," Blyth,) above, scarcely tinged with rusty [?] and with many black hairs mixed. Feet and belly white. Fur rather coarse and hispid, but close; especially below. Tail thinly clad. Mammæ twelve.

Male,.....	Body, .....	7.10	} =14.20
	Tail,.....	7.10	

"A common house rat breeding in the roofs and not burrowing."

# PROCEEDINGS

## OF THE

### ASIATIC SOCIETY OF BENGAL,

FOR DECEMBER, 1866.



A monthly general meeting of the Asiatic Society of Bengal was held on Wednesday the 5th Instant at 9 P. M.

The Honorable J. B. Phear, in the chair.

The proceedings of the previous meeting were read and confirmed.

The following presentations from W. H. Johnson, Esq., were announced ;\*—

Old brick Tea from ruins near Ilchi.

Tea found in dry bed of salt lake near Karakas.

„ „ near Karakoram pass.

„ „ at Kiam hot-springs in Changchemno.

„ „ ditto ditto.

„ „ at Dooar in Khotan.

„ „ at Kiam hot-springs.

„ „ near Dooar in Khotan.

„ „ „ ditto ditto.

„ Grasses from Khotan.

Five Images found in large plain north of the Changchemno (Tartar).

One pair of (woman's) Boots from Khotan.

One woman's cap ditto

One box ditto

One carpet ditto

One praying wheel (Tartar).

One Tea-pot from Khotan, engraving done there by women.

J. M. Ross, Esq., duly proposed, at the November meeting, was balloted for and elected an ordinary member.

\* See Proc. for August. *Ante*, pp. 182-5.

Messrs. W. T. Dodsworth and A. Money's desire to withdraw from the Society was recorded.

The following gentlemen were named as candidates for ballot at the next meeting.

Lieutenant W. J. Williamson, Assistant Commissioner, Garrow Hills, proposed by Dr. J. Anderson, seconded by Baboo Rájendralála Mitra.

G. A. Anley, Esq., Engineer to the Municipal Commissioners, proposed by Dr. J. Ewart, seconded by Dr. J. Anderson.

Dr. J. Anderson read the following two letters from Dr. Ross and Mr. Abbey.

*Cape Comorin, Travancore, 6th October, 1866.*

MY DEAR FAYRER,—I have undertaken, at the desire of the British Resident, to collect information regarding the Ethnology of this country and of Cochin, and to illustrate it by photographs of typical examples of the people, public and religious buildings, and monuments, private dwellings, arms, musical instruments, &c. Of the typical people, I purpose taking of men and women, one full length photograph, and two of the bust, one being full face and the other profile—and one photograph of the top of the head. Of course photos. of all the agricultural instruments will also be taken, and a few of the country, in order to give an idea of its general outline, as well as some idea of the way in which it may have modified race distinctions.

The account of the Ethnological condition of the two countries will include a full account of the religious and superstitious beliefs and practices, of the moral condition, the employments, and amusements, the physical conformation, (with accurate measurements,) the language, history, and traditions of each race.

A set of the photographs will be presented at the expense of the Travancore and Cochin Sircars (or rather at mine, as they are only to pay for the actual chemicals used,) to the Ethnological branch of the Royal Asiatic Society, together with my account of the Ethnology. As I shall have to take some 300 or 400 *negatives*, fully to illustrate the subject, and to collect all the information procurable, I have, as you may imagine, my work pretty well cut out for me. As I am going to so much trouble and expense, I would like the thing to be as complete as possible—and I would therefore be much obliged for any

hints which you could give me in order to render it so ; as I know you are both interested in the subject and competent to give the best advice regarding it.

We have many most interesting tribes in these two small states :—the white and black Jews of Cochin, the bigoted and exclusive Namboori Brahmins, who lord it over the Tamil and Conkany Brahmins, the Syrian Christians, the Chhetrya rulers of Cochin, the Choans, the soil slaves, the Pulliards, the Wadi, and the jungle tribes regarding whom little or nothing is yet known, (including the winter tribe—lithe of limb and quick of eye—with a scent like that of hound ;) the lordly Nair and many other interesting tribes “too numerous to mention here.” Should you think information on any special point particularly valuable, I will take care that it shall be complete.

\* \* \* \* \*

Believe me

Your's very sincerely,

ÆNEAS MACLEOD ROSS,

*Residency Surgeon.*

*Mergui, B. Burmah, November 16th 1866.*

DEAR SIR,—I have received a printed report of Proceedings of the Madras Government, together with a circular to Zillah Surgeons, requesting information as to the Ethnological characteristics of their respective districts.

The district of Mergui, situated at the southern extremity of B. Burmah, has a singularly wild population, affording specimens of most or all of the many varieties of the Peninsula ; natives of Northern and Southern China, and probably also of the East Indian Islands.

Peculiar to the Mergui Archipelago are the “Selungs,” a curious people, very distinct in appearance, habits and surroundings from the inhabitants of the main land.

You will probably agree with me in thinking that any such report as that called for would be immensely increased in value by a well selected series of photographs, which might very possibly prove to be the only really valuable part of the communication.

I have ventured to address myself to you on this matter, as being the promoter of the forthcoming Ethnological Congress. If you



think it would be worth while to have these photographic illustrations, Government might perhaps be induced to forward the matter.

I am Dear Sir,

Your's faithfully,

WALTER ABBEY.

The Hon'ble Justice Campbell made a few remarks on the above letters.

The receipt of the following communications were announced—

1. From C. Horne, Esq., Notes on the village of Manaira.
2. From W. T. Blanford, Esq., F. G. S. Contributions to Indian Malacology, No. VIII.
3. From Baboo Gopinath Sen, an abstract of hourly Meteorological Observations taken at the Surveyor General's Office in August last.
4. From Captain H. A. Browne, Notes on the Pegu Pagoda.

The Secretary read extracts from Captain Brown's paper. It appears from the paper that every ancient Pagoda in Burmah has its "*Thamaing*" or "Sacred Chronicle," giving its history from its foundation to a recent time. The commencement of these chronicles is of a more or less mythical character, the founding of each particular Pagoda being connected, if possible, by its historian, with some event in the life of Gaudama. But later on they are truthful contributions to the history of the period. According to one of these chronicles, (of which the paper is an abstract translation) the *Shwe Hmawdow*, or the great Pagoda of Pegu, was erected by two pilgrims named Mahathala and Tsoolathala, in the year 572 B. C., and was intended to enshrine two hairs of Buddha which he had given them for the purpose. The Pagoda seems, however, to have soon after fallen into neglect, and its first authentic history begins with the foundation of the town of Pegu in the year 1116 by Thamala, a Talaing prince who named it *Hanthawadie*. He made it the capital of his kingdom, and greatly improved and endowed the Pagoda, and thirty-five princes of his race successively reigned after him and added largely to the height and importance of the shrine. From the Talaings, Pegu passed into the hands of the king of Pagan in 1354, who held it but for a few years, and made it over to a Martaban prince named Wororee in 1357. The descendants

of the last reigned for a little more than two hundred years, and yielded the kingdom to a new dynasty which supplied successively four kings from 1568 to 1636. In 1737 Pegu became an appanage of the kings of Ava.

The Chairman said it was now his duty to invite discussion upon the paper, which had just been read by the Secretary. He was sorry to be obliged to confess, that under the obscurity of long words, and local names entirely unintelligible to him, he had not been able very clearly to comprehend the purport of Captain Browne's communication. The heading of the paper had led him to expect a discussion of architectural and antiquarian researches, and judging from the impression produced on his mind two years ago by the sight of the magnificent pagodas at Rangoon, he imagined that an investigation of their origin and of their structural peculiarities would afford a subject well worthy of the attention of this Society. If he was not misinformed, these pagodas were all solid masses of masonry, resembling in this respect the pyramids of Egypt, with perhaps (like them also) a small chamber in the centre. It would be interesting to inquire, whether the Burmese pagoda was an advanced form of the pyramid, in which graceful curved outlines, and mouldings had taken the place of the hexagon and its plane faces: and if so, to trace out the circumstances of the development. But as far as he understood the present paper, it did not touch on this topic at all: it was rather an abstract of old chronicles, and as such, was probably a valuable contribution to the archaic or mythological history of Burmah. He hoped that some of the members of the Society then present were prepared to do justice to its merits.

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Mr. Waldie rose to mention a subject on which he wished for information, in connection with the investigations on the Hoogly water in which he is at present engaged, in the hope that some members of the Society might be able to assist him to it. And he would take the opportunity to observe, in relation to his late communications on that subject, that he did not coincide with all the views and conclusions that had been drawn from the results given in his papers; and though in due time he would probably have more decided opinions, as matters stood at present, he considered that his results rather were to be taken

as having broken up received opinions on the subject than as having established new ones.

His enquiry at present was directed towards ascertaining the dimensions of the channel of the river,—its breadth and depth, and therefrom its area, and also the velocity of the current and quantity of water passing in a given time. He referred to the source of the river in the effluents from the main stream of the Ganges, and the impediments to the supply of water from the main stream by the bars formed there, the Hoogly having been compared by some to an arm of the sea rather than a river during the hot season, in which the water oscillated backwards and forwards under the influence of the tides. He should be glad if any member could put him in the way of getting some definite information on the subject, as some attempts he had made to obtain this, had not been attended with success.

Several members expressed an opinion that the information could be obtained, and promised to assist Dr. Waldie in his researches.

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## APPENDIX.

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## APPENDIX A.

<i>Authors.</i>	<i>Papers Communicated.</i>	<i>Author's date.</i>	<i>When received.</i>	<i>Pt. &amp; No. of the Jnl. and Proc.</i>
R. Adams, Esq.	Notes on the "Madar" plant. ....	.....	14th June, 1866.	
Capt. H. H. G. Austen. ....	Notes on the Pangong Lake, district of Ladak. ....	.....	28th July, 1866.	
V. Ball, Esq.	Vocabulary of the English, Balti and Kashmiri. ....	14th July, 1866.		
	Notes on the principal Jungle fruits used as articles of food by the natives of the districts of Maunbhoom and Hazareebag. ....	3rd Nov. 1866.	3rd Nov. 1866.	
J. Beames, Esq.	The Arabic Elements in official Hindustani, No. 2. ....	.....	19th July, 1866.	
	Derivation of "Om and Amen." ....	.....	26th Augt. 1866.	Proc. Sept. p. 193.
	Outlines of Indian Philology. ....	.....	6th Oct. 1866.	
W. T. Blanford, Esq.	Contributions to Indian Malacology, No. VI. ....	.....	3rd Feb. 1866.	Pt. II. No. I. 1866.
	Ditto ditto, No. VII. ....	.....	5th Sept. 1866.	Pt. II. No. II. 1866.
	Ditto ditto, No. VIII. ....	.....	5th Dec. 1866.	
H. Blochmann, Esq.	Derivation of "Om and Amen," ....	.....	3rd Sept. 1866.	
Capt. H. H. Brown, ....	Notes on the Pegu Pagoda. ....	.....	4th Dec. 1866.	Proc. for December.
The Hon. G. Campbell, ....	Ethnology of India. ....	.....	4th June, 1866.	Pt. II. Sp. No. 1866, Ethnology.
C. J. Campbell, Esq.	Notes on the History and Topography of the ancient cities of Delhi. ....	27th July, 1866.	11th Augt. 1866.	

P. Carnegie, Esq.	Notes and Queries on the past history of different clans and races of Orde.	.....	10th Augt. 1866.	
Maj.-Gen. A. Cunningham,	Archæological Survey Report, 1864-65,	.....	13th Feb. 1866.	Pt. II. Sp. No. 1866.
The Rev. F. Batsch,	Notes on the Oraon language,	.....	9th July, 1866.	Ethnology.
Lieut.-Col. E. T. Dalton,	The Kols of Chota-Nagpore,	.....	27th July, 1866.	Pt. II. Sp. No. 1866.
F. Feilden, Esq.	Notes on the Fireflies of Burma.	.....	1st Jan. 1866.	Ethnology.
Major B. Ford,	Report on the Barren Island,	.....	6th July, 1866.	Proc. for January.
Govt. of India, (Home),	10 Communications describing storms in various parts of the world and which were collected for the use of the late Mr. Piddington.	.....	22nd Dec. 1866.	
The Govt. of Bengal,	Several communications on the Earth-quake of 23rd May, 1866.	.....		
Babu Gopee Nauth Sen,	Abstract of Hourly Meteorological Observations made at the Surveyor General's Office in September, 1865.	.....	19th Jan. 1866.	} Pt. II. No. II. 1866.
	Ditto October and November, 1865.	.....	21st Feb. 1866.	
	Ditto December, 1865,	.....	25th Mar. 1866.	Pt. II. No. II. 1866.
	Ditto January and February, 1866.	.....	25th May, 1866.	
	Ditto March, April and May, 1866.	.....	16th Augt. 1866.	
	Ditto June and July, 1866.	.....	15th Oct. 1866.	
	Ditto August, 1866.	.....	6th Dec. 1866.	

<i>Authors.</i>	<i>Papers Communicated.</i>	<i>Author's date.</i>	<i>When received.</i>	<i>Pt. &amp; No. of the Jrrnl.</i>
F. S. Growse, Esq.	Some objections to the modern style of official Hindustani. ....	.....	.....	.....
E. B. Harris, Esq.	A list of things discovered in excavations in Suktangunge, up to November, 1865. ....	.....	9th July, 1866.	Pt. I. No. III. 1866.
W. J. Herschell, Esq.	Description of the Chandrarekha Gurh near Sheshtani, Pergumiah Naye Gong, Zilla Midnapore. ....	.....	17th Feb. 1866.	.....
C. Horne, Esq.	Notes on Anjimm village. ....	9th Feb. 1866.	2nd April, 1866.	Pt. I. No. III. 1866.
	Notes on Jusrow village and its ruins. ....	24th Mar. 1866.	15th Feb. 1866.	.....
	Notes on Jumma Musjid, Etwah. ....	.....	27th Mar. 1866.	.....
	Notes on Mynpuri village. ....	.....	27th April, 1866.	.....
	Village Notes (Namaira). ....	.....	.....	.....
	Notes on Atranjikhara or Pishanna of Genl. Cunningham. ....	14th Dec. 1865.	5th Jan. 1866.	Pt. I. No. III. 1866.
W. H. Johnson, Esq.	Rough Notes on Ancient Hindu Temples at Malaon. ....	15th Dec. 1865.	2nd Jan. 1866.	.....
	Report of the survey operations of the Kashmir series beyond, and to the north of Changchemno valley. ....	.....	.....	.....
W. Masters, Esq.	A few notes on the Earthquakes of December 1865, in Bengal. ....	22nd April, 1866.	16th July, 1866.	.....
A. P. Minas, Esq.	A short sketch of the tribes of Bhutiana and Hurriana. ....	.....	17th Jan. 1866.	.....
	.....	.....	23rd July, 1866.	.....

Capt. A. B. Melville, ...	Notes on the Buddhist Temple at Dob Khand, Gwalior. ...	25th Jan. 1866.	31st Jan. 1866.	Pt. I. No. III. 1866.
Major F. D. Newall, R. A.	Two notes on visits to Cashmere. ...	.....	27th July, 1866.	
Babu Rajendra Lala Mitra.	Notes on the Gupta inscriptions from Aphsar and Behar. ...	.....	4th Nov. 1866.	
Dr. A. Sprenger, ...	Remarks on Barbier de Maynard's edition of Ibn Khordhadhe and on the Land Tax of the Empire of the Khaliffs. ...	23rd Feb. 1866.	24th Feb. 1866.	Pt. I. No. II. 1866.
R. Taylor, Esq.	Notes on the Physical changes of the Koen Pagoda near Madras. ...	5th Jan. 1866.	18th Jan. 1866.	Proc. Feb. p. 51.
E. Thomas, Esq.	The Initial Coinage of Bengal. ...	.....	3rd Mar. 1866.	
Lieut.-Col. R. C. Tytler,	Description of Drymoica Verreauxii. ...	.....	3rd June 1866.	
Dr. A. M. Verchere, ...	Kashmir, the Western Himalaya and the Afghan Mountains. ...	.....	5th Jan. 1866.	Pt. II. No. II. 1866.
Lieut.-Col. J. T. Walker,	Abstract of the observations of the Astronomical points determined by the Bros. Schlagentweit. ...	.....	11th Jan. 1866.	Pt. II. No. I. 1866.
	Russian Geographical operations in Asia. ...	.....	8th Mar. 1866.	Pt. II. No. II. 1866.
D. Waldie, Esq.	Experimental investigations connected with the water supply to Calcutta. ...	.....	31st Augt. 1866.	
	Supplement to ditto. ...	.....	28th Sept. 1866.	
G. E. Ward, Esq.	Notes on the Antiquities of the Dhoon. ...	7th Feb.	23rd Mar. 1866.	Proc. April, p. 97.

## APPENDIX B.

## Donors.

## Donations transferred to the Indian Museum.

Dr. John Anderson. — A young specimen of *Gavialis Gangeticus*; a specimen of *Crocodilus porosus*; 2 *Halcyon Smyrnensis* (white-breasted king-fisher); one *Athene Brama* (spotted owl); *Pteropus Edwardsii* (flying fox); one *Caprimulgus Asiaticus* (Indian goat-sucker); one *Budytes viridis* (wagtail); 2 *Anthus rufulus* (slender lark); 3 *Gyps Bengalensis* (vulture); one *Dicrurus macrocercus* (king crow).

*Macacus radiatus*; *Oriolus melanocephalus*; *Pratincola caprata*; *Accipiter nisus*; *Euplocamus nycthemerus*; *Eos ornata*; *Lorius domicella*; *Sturnus contra*; *Dicrurus caerulescens*; *Dicrurus macrocercus*; *Dicrurus longicaudatus*; *Budytes viridis*; *Malacocercus Bengalensis*; *Cuculus varius*; *Fringilla Canaria*; *Melopsittacus undulatus*; *Edolius grandis*; *Eclectus polychlorus*; *Pycnonotus jocosus*; *Pycnonotus atricapillus*; *Calliope Kamtschatkensis*.

*Vipera Russellii*; a *Cobra*; a *Sus Andamanensis*; *Gyps Bengalensis*; *Oriolus melanocephalus*; *Pteropus Edwardsii*; one *Lutra Nair*.

*Limulus rotundicauda*; *Platanista Gange-tica*.

W. S. Atkinson, Esq. — A specimen of fossil wood from the petrified forest of Cairo. A nest of *Nectarinia Nepa-lensis* and of a *Nectarinia*, sp. ?

J. Avdall, Esq. — Specimens of Burmese Candle and ear-ring.

Barrackpore Park Menagerie. — Specimen of *Struthio-camelus*.

H. F. Blanford, Esq. — Two *Tudora ferruginea*, Europe; *Melanopsis Esperii*, Transylvania; 2 *Melanopsis thermalis*, Europe; 2 *Melanopsis acicularis*, Europe; 6 *Nanina ligulata*, Madras; 2 *Cyclostoma*

*costulatum*, Europe; *Cyclotus corrugatus*, Jamaica; one *Rhiostoma Housei*, Siam; one *Philopotamis decussata*, Ceylon; 6 *Pomatias maculatum*, Europe; 2 *Clypeaster*, Pondicherry.

W. T. Blanford, Esq.—*Gallus Sonneratii*; *Galloperdix lunulosa*; *Fuligula rufana*; *Antelope quadricornis*; 2 heads and fore and hind legs of *Bos Gaurus*.

Col. D. Brown.—Skins of *Psitta cucullata* and *Scolopax rusticola*.

J. A. Cockburn, Esq.—*Python molurus*.

Major B. Ford.—Three skulls and an incomplete skeleton of a child; a *Hydrosaurus salvator* in spirit; a few edible swallow's nests; an incomplete skeleton of *Sus Andamanensis*; an Andaman bow and a fishing basket; and specimens illustrating the Conchology of the Andaman Islands.

One Gecko, two Lizards and one Snake in spirit from the Andamans.

A collection of snakes, lizards and crustacea from the Andaman Islands.

A box of mineral and vegetable specimens from Barren Island.

Specimens of *Crustacea*, *Echinodermata*, centipedes and snakes from the Andaman Islands.

THE Government of Bengal.—A box containing a specimen of sand poured forth near Thanna Roajan in Chittagong on the occasion of the Earthquake of December, 1865.

THE Government, N. W. P.—A specimen of the "Madar" bark fibre, and specimens of thread, cord and cloth made from the same fibre, with specimens of cloth made from the cotton, and cotton and fibre of the Madar."

A. Grote, Esq.—Two specimens of *Enhydrina Bengalensis*; one of *Lepus ruficaudatus*; one new born foal of *Equus caballus*; three eggs of *Colotes versicolor*; four specimens of live *Geckos*, and one of a Python. Skeleton of an Alderney bull.



- P. Hartnell, Esq.—A specimen of *Xiphias Gladius* (sword fish) from the Bay of Bengal.
- S. Jennings, Esq.—A specimen of a flying lizard, *Draco Dussumieri*.  
A specimen of *Aprosmictus scapulatus* (king parrot) of Australia.
- W. H. Johnson, Esq.—Old brick tea from ruins near Ilchi; also from Karakas, Karakorum pass, Kiam hot springs in Changchemno, and Doar in Khotan. Grasses from Khotan.  
Five brass images from near the Changchenmo, one pair of boots from Khotan, one cap, one box, one carpet, one praying wheel.
- M. Lloyd, Esq.—A packet of specimens of supposed indigenous tea (*Eurya Chinensis*) from Tounghoo.
- Capt. T. H. Lewin.—Specimens of clothes worn by the Hill tribes of Chittagong.
- Major B. Macbean.—A specimen of an up-country bull.
- Mrs. H. Mackenzie.—An abnormal skull of a dog from N. China.
- Dr. C. MacClelland.—A case of upper cretaceous fossils from Cherra-Punji.
- Moonshee Mahomed Hossein.—A brick from the temple at Buddha Gya, measuring  $15.6 \times 10.5 \times 3.2$  inches.
- J. Obbard, Esq.—3 Marine boring Annelids.
- Lt.-Col. A. P. Phayre.—Three Burmese skulls, and one from the Shan states.
- Kumar Pramatha Natha Roy.—*Carcharius Milherti* (Ganges).
- Babu Protap Chunder Ghoshe.—*Onychocephalus acutus*.
- Babu Rajendra Mullick.—Specimens of *Poephagus Grunniens* (yâk); *Nasua rufa* (Coaiti mundi); *Ceriornis Satyra* (Tragopan); *Anser Indicus* (bare headed goose); *Psittacus erythacus* (grey African parrot);  
2 *Bos Grunniens*; one *Dama vulgaris* (fallow Deer); one *Dromaius Novæ Hollandiæ*; one *Grus Antigone* and one *Ara ararauna*.
- Babu Rajendra Lala Mittra.—One *Felis Pardus*, and one *Oriolus melanocephalus*.
- THE Rev. A. B. Spry.—A box of bird skins from Malacca.

W. C. Taylor, Esq.—A large collection of insects chiefly from Darjiling.

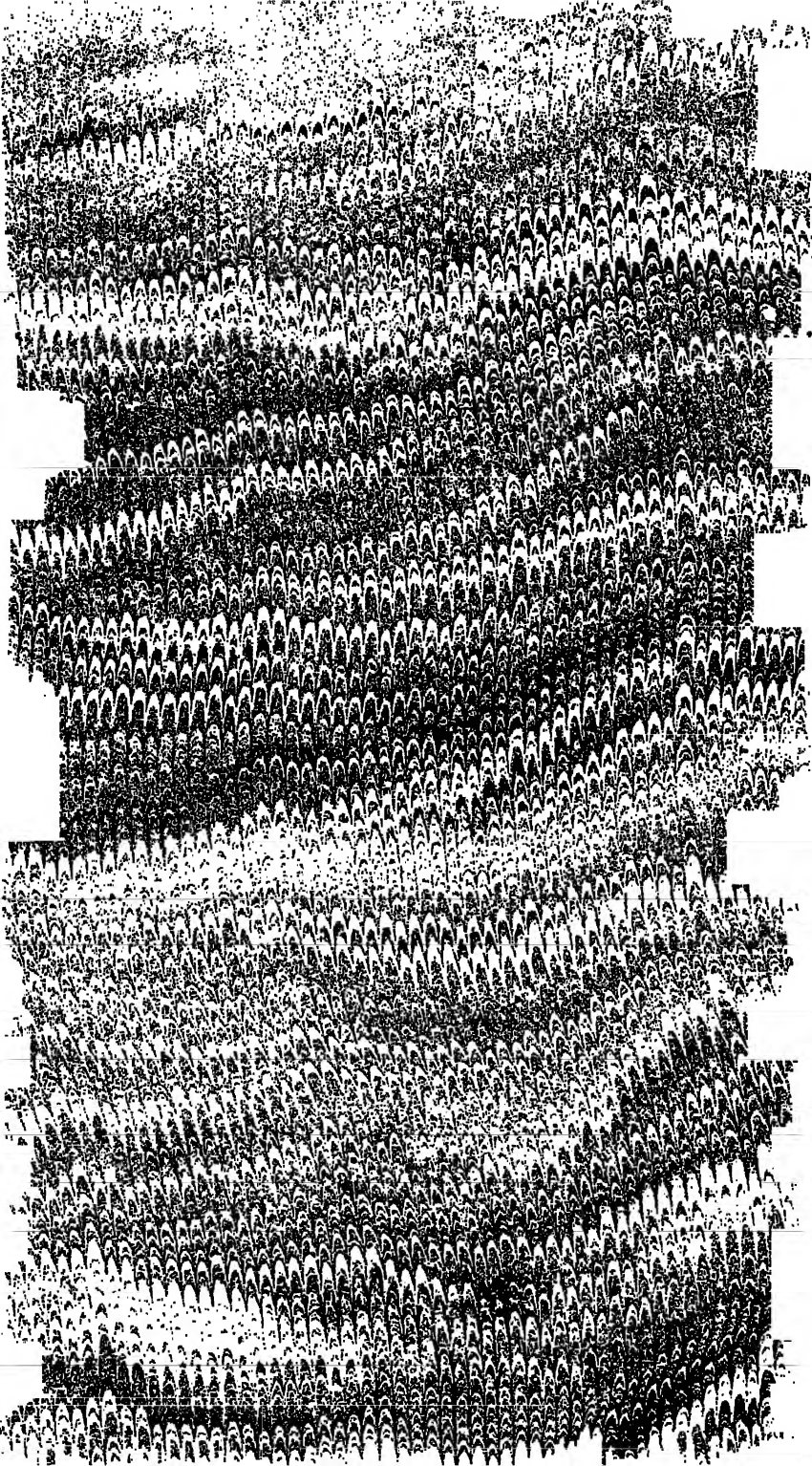
D. Waldie, Esq.—Specimens of pseudomorphs of Peroxide of Iron after Pyrites.

J. Westmacott, Esq.—Specimens of canes, rattans and a skull of a deer from Jessore.

The following were purchased :—

A skeleton of a Bhootea; *Canis familiaris*, *Felis Bengalensis*. *Ciconia alba*, *Felis chaus*, *Eclectus polychloros*. *Graculus carbo*, *Eclectus grandis*, *Loriculus pumilus*. *Grus Antigone*, *Lophophorus impeyanus*. *Mycteria Australis*, *Casuarias galeatus*. *Paradoxurus Musanga*. *Corvus splendens*. *Euplocomus albo-cristatus*. A brass tea-pot from Khotan.

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